

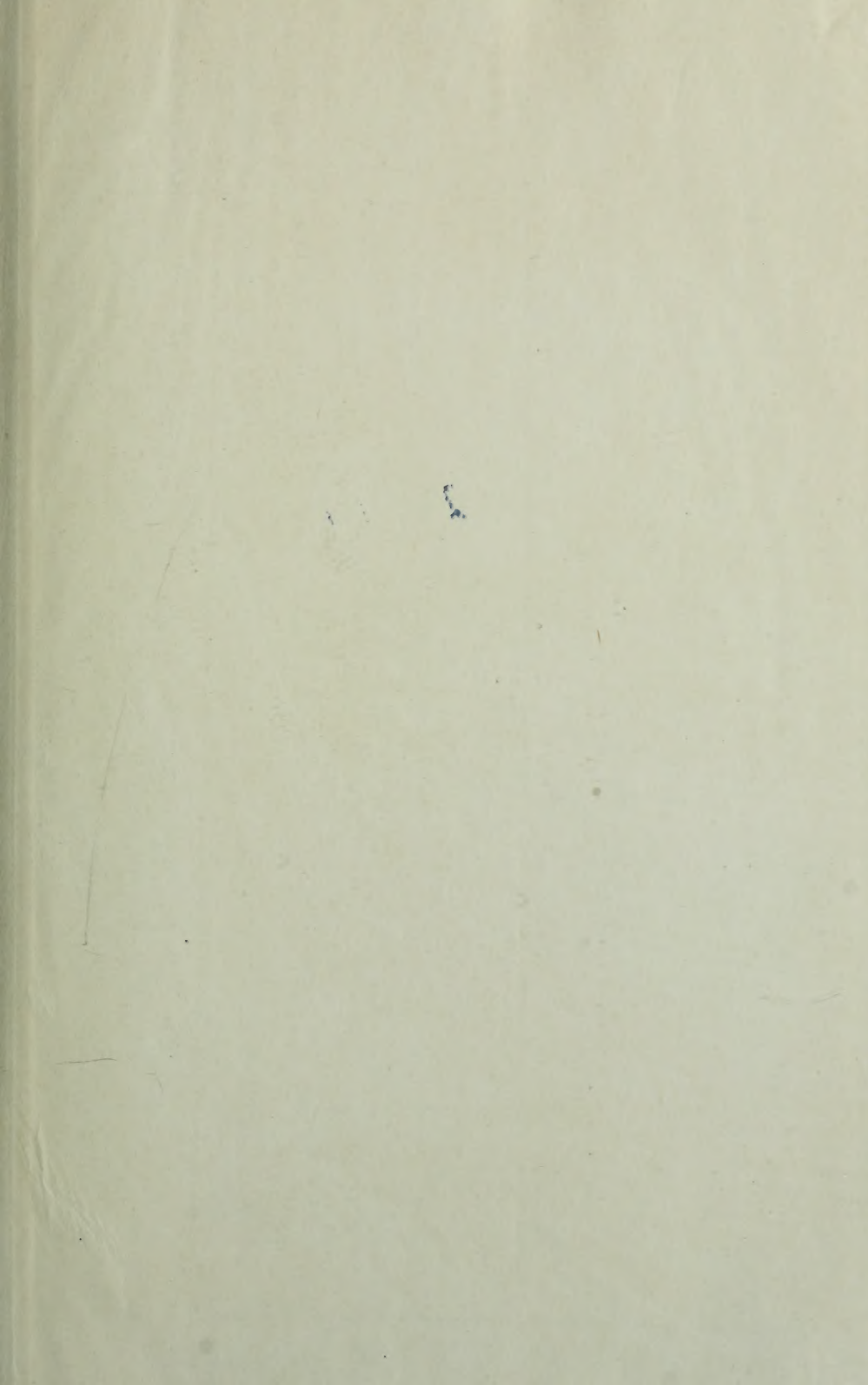
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No. 11019

2410

United States
Circuit Court of Appeals
For the Ninth Circuit.

THE PERMANENTE METALS CORPORA-
TION, a corporation,

Appellant,

vs.

B. PISTA AND MARIE PISTA,

Appellees.

Transcript of Record
In Two Volumes
VOLUME I
Pages 1 to 375

Upon Appeal from the District Court of the United States
for the Northern District of California,
Southern Division

FILED

SEP 8 - 1945

PAUL P. O'BRIEN,

CLERK

No. 11019

United States
Circuit Court of Appeals
For the Ninth Circuit.

THE PERMANENTE METALS CORPORA-
TION, a corporation,

Appellant,

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NAMES AND ADDRESSES OF ATTORNEYS

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San Francisco, California.

BARDIN and HARRINGTON,

615 Salinas National Bank Building,
Salinas, California,

Attorneys for Plaintiff and Appellee.

In the Superior Court of the State of California
In and For the County of Monterey

No. 23317

B. PISTA and MARIE PISTA,

Plaintiffs,

vs.

THE PERMANENTE METALS CORPORA-
TION, a corporation,

Defendant.

State of California,
County of Monterey—ss.

I, Emmet G. McMenamin, County Clerk and ex-officio Clerk of the Superior Court of the State of California, in and for the County of Monterey, do hereby certify that the annexed and foregoing copies constitute a true, correct and complete transcript of all proceedings in the above-entitled cause, including the—

Complaint

Summons

Petition for Removal of Cause to the United States District Court, for the Northern District of California, Southern Division

Bond on Removal

Notice of Petition for Removal

Order for Removal of Cause

Affidavit of Service by Mail

Notice of Order for Removal of Cause to the United States District Court

as fully as the same remain of record and on file in my office, and that said copies are full, true and

correct copies of the originals thereof, and of the whole thereof.

Witness my hand and the Seal of said Court this 30th day of November, 1943.

[Seal] EMMET G. McMENAMIN,
Clerk

By EDNA E. SHORNE
Deputy [*2]

[Title of Superior Court and Cause.]

NOTICE OF ORDER FOR REMOVAL OF
CAUSE TO THE UNITED STATES DIS-
TRICT COURT

To the Plaintiffs Above-Named, and to Messrs.
Bardin and Harrington, Their Attorneys:

You, and each of you, will please take notice, that on Tuesday, the 9th day of November, 1943, the above-entitled court made its order approving defendant's bond on removal in the above-entitled matter, and ordering the removal of said action to the United States District Court, for the Northern District of California, Southern Division. Attached hereto is a copy of said order.

MAX THELEN
THOMAS K. McCARTHY
THELEN, MARRIN, JOHNSON
& BRIDGES,
Attorneys for Defendant.

[Endorsed]: Filed Nov. 12, 1943. [3]

[Title of Superior Court and Cause.]

ORDER FOR REMOVAL OF CAUSE

The Permanente Metals Corporation, a corporation, defendant herein, having, on the 9th day of November, 1943, and within the time provided by law, filed its petition with the above-entitled court for the removal of this cause into the District Court of the United States, in and for the Northern District of California, Southern Division, and having at the same time offered its bond in the sum of One Thousand Dollars (\$1,000.00), with Hartford Accident & Indemnity Company, a corporation, a good and sufficient surety, pursuant to the statute, and conditioned according to law; now, therefore,

It is Hereby Ordered that said petition and bond be accepted and approved, and that this cause be removed to the District Court of the United States, in and for the Northern [4] District of California, Southern Division, pursuant to the statutes of the United States; that the Clerk of this Court be, and he hereby is, directed forthwith to make up the record in this action for the transmission of the same to the said District Court of the United States, and that this Court proceed no further in the suit.

Dated this 9th day of November, 1943.

H. G. JORGENSEN

Judge of the Superior Court

[Endorsed]: Filed Nov. 9, 1943. [5]

[Title of Superior Court and Cause.]

AFFIDAVIT OF SERVICE BY MAIL

State of California,

City and County of San Francisco—ss.

Bena Edwards, being first duly sworn, says:

That she is a citizen of the United States and a resident of the City and County of San Francisco, State of California; that her business address is 111 Sutter Street, San Francisco, California; that she is over the age of eighteen years, and not a party to the above-entitled action.

That the office of Messrs. Bardin and Harrington, the attorneys for plaintiffs, is located at 615 Salinas National Bank Building, Salinas, California; that the office of Messrs. Thelen, Marrin, Johnson & Bridges, the attorneys for defendant, is located at 111 Sutter Street, San Francisco, California.

That on November 10, 1943, affiant deposited in the United States mail box at 111 Sutter Street, San Francisco, California, a sealed envelope addressed to Messrs. Bardin and [6] Harrington, 615 Salinas National Bank Building, Salinas, California, containing a true and correct copy of Notice of Order for Removal of Cause to the United States District Court; that the original of said Notice is filed herewith; that postage was fully prepaid on said envelope; that there is a regular communication by United States mail between the place of mailing and the place so addressed.

BENA EDWARDS

Subscribed and sworn to before me this 10th day of November, 1943.

[Seal] LULU P. LOVELAND

Notary Public, in and for the City and County of San Francisco, State of California.

(Here Follows Copy of Order for Removal of Cause Already Copied.)

Filed 1943 Nov. 9 AM 10 06 Emmet G. McMe-
namin County Clerk. Agnes Koue Deputy.

[Endorsed]: Filed Nov. 12, 1943. [7]

[Title of Superior Court and Cause.]

NOTICE OF PETITION FOR REMOVAL

To the Plaintiffs Above-Named, and to Messrs.
Bardin and Harrington, Their Attorneys:

You are hereby notified that on Tuesday, the 9th day of November, 1943, the defendant, The Permanente Metals Corporation, a corporation, will file in the above-entitled court, in the City of Salinas, County of Monterey, its petition and bond for the removal of the above-entitled cause from the said court to the United States District Court, for the Northern District of California, Southern Division. Copies of said petition and bond are attached hereto and [8] made a part hereof.

Dated ths 8th day of November, 1943.

MAX THELEN

THOMAS K. McCARTHY

THELEN, MARRIN, JOHNSON

& BRIDGES

Attorneys for Petitioner, The Permanente Metals
Corporation

Receipt of a copy of the within notice, together
with copies of petition for removal of cause and
copy of bond on removal, is hereby acknowledged,
this 9th day of November, 1943.

BARDIN & HARRINTON, V.S.

Attorneys for Plaintiffs

[Endorsed]: Filed Nov. 9, 1943. [9]

[Title of Superior Court and Cause.]

PETITION FOR REMOVAL OF CAUSE TO
THE UNITED STATES DISTRICT
COURT, FOR THE NORTHERN DISTRICT
OF CALIFORNIA, SOUTHERN DIVISION

To the Honorable Superior Court of the State of
California, In and For the County of Monterey:

The verified petition of The Permanente Metals
Corporation, a corporation, respectfully shows as
follows, to-wit:

I.

That the complaint in the above-entitled action
was filed with the Superior Court of the State of
California, in and for the County of Monterey, on

the 13th day of October, 1943, and that thereupon summons was issued and service of said summons and complaint was accepted by this corporate defendant on the 16th day of October, 1943, in the City and [10] County of San Francisco, State of California, and that the time for said defendant to answer or plead to said complaint does not expire until the 15th day of November, 1943.

II.

That the amount and matter in dispute in the above-entitled cause between plaintiffs and defendant exceeds the sum of \$3,000.00, exclusive of interest and costs, and is the sum of \$40,000.00.

III.

That the controversy in this suit is, and at the time of the commencement of this suit was, wholly between citizens of different states; that petitioner, The Permanente Metals Corporation, the defendant in this suit, was at the time of the commencement of this suit, and ever since has been, and still is, a corporation organized and existing under and by virtue of the laws of the State of Delaware, and is a citizen of the State of Delaware, within the meaning and intent of the statutes of the United States relating to diversity of citizenship as grounds for jurisdiction in the Federal courts.

That petitioner, The Permanente Metals Corporation, is not organized or incorporated in the State of California, and is not a citizen of said State, and plaintiffs, B. Pista and Marie Pista, and each of

them, were, at the time of the commencement of this suit, and still are, citizens and residents of the State of California, and that the controversy herein is between citizens of different states.

V.

That prior to the filing of this petition, petitioner, The Permanente Metals Corporation, a corporation, gave notice to plaintiffs above-named of the filing of this petition and the [11] bond for removal of said cause from the above-entitled court to the United States District Court, for the Northern District of California, Southern Division.

VI.

That petitioner offers herewith a bond with good and sufficient surety for its entering into the said United States District Court, within thirty days from and after the filing hereof a certified copy of the record in the above-entitled action, and for the payment of costs that may be awarded by said United States District Court, for the Northern District of California, Southern Division, if said court shall hold that said suit was wrongfully or improperly removed thereto.

Wherefore, petitioner prays that this court proceed no further herein, except to make such order of removal as may be required by law and to accept the said surety and bond, and to cause the record herein to be removed to said District Court of the

United States, for the Northern District of California, Southern Division.

MAX THELEN

THOMAS K. McCARTHY

THELEN, MARRIN, JOHNSON
& BRIDGES

Attorneys for Petitioner, The Permanente Metals Corporation. [12]

State of California,

County of Alameda—ss.

G. G. Sherwood, being first duly sworn, says:

That he is an officer of defendant and petitioner herein, The Permanente Metals Corporation, a corporation, to-wit, Treasurer and Assistant Secretary thereof, and that he makes this verification on its behalf.

That he has read the within and foregoing petition and knows the contents thereof, and that the same is true of his own knowledge, except as to the matters which are therein stated on information or belief, and as to those matters that he believes it to be true.

G. G. SHERWOOD

Subscribed and sworn to before me this 8th day of November, 1943.

[Seal]

NELLIE I. PHILLIPS

Notary Public In and For the County of Alameda,
State of California.

(Here Follows Copy of the Bond on Removal
Which Is Copied Hereafter.) [13]

[Title of Superior Court and Cause.]

BOND ON REMOVAL

Know All Men by These Presents:

That we, the undersigned, The Permanente Metals Corporation, a corporation, as principal, and the Hartford Accident & Indemnity Company, a corporation, organized and existing under and by virtue of the laws of the State of Connecticut, as surety, authorized to transact and transacting a surety business in the State of California, as a surety company, are held and firmly bound unto B. Pista and Marie Pista, and their executors, administrators and assigns, in the sum of One Thousand Dollars (\$1,000.00), lawful money of the United States of America, for the payment of which well and truly to be made we bind ourselves, our, and each of our, successors and assigns, jointly and severally, by these presents.

The condition of the above obligation is such that,

Whereas, The Permanente Metals Corporation, a corporation, named as the defendant in the above-entitled cause, [14] has filed its petition in the Superior Court of the State of California, in and for the County of Monterey, for the removal of that certain action therein pending, which is above-entitled, to the United States District Court, for the Northern District of California, Southern Division;

Now, if said petitioner, The Permanente Metals Corporation, a corporation, shall file in said United States District Court, for the Northern District of

California, Southern Division, within thirty days from the date of the filing of said petition for removal, a certified copy of the record in said cause, and shall pay all the costs that may be awarded by said United States District Court, if said Court shall hold that said suit was wrongfully or improperly removed thereto, then this obligation to be void, otherwise to be and remain in full force and effect.

Witness our hands and seals, this 8 day of November, 1943.

THE PERMANENTE METALS
CORPORATION,

a Corporation,

By E. E. TREFETHEN, Jr.

Vice-President

By G. G. SHERWOOD

Assistant Secretary

Principal

[Seal]

HARTFORD ACCIDENT & IN-
DEMNITY COMPANY,

a Corporation,

By JAMES A. SMITH,

Attorney-in-Fact

Executed in duplicate.

Surety

The above and foregoing bond is accepted and the form thereof approved, and the surety approved as good and sufficient, this 9th day of November, 1943.

H. G. JORGENSEN

Judge of the Superior Court

State of California,

City and County of San Francisco—ss.

On this 8 day of November in the year one thousand nine hundred and 43, before me, Vincent P. Laguens, a Notary Public in and for said City and County, residing therein, duly commissioned and sworn, personally appeared James A. Smith, known to me to be the Attorney-in-Fact of the Hartford Accident and Indemnity Company, the Corporation described in and that executed the within instrument, and also known to me to be the person who executed it on behalf of the Corporation therein named, and he acknowledged to me that such Corporation executed the same.

In Witness Whereof, I have hereunto set my hand and affixed my Official Seal, at my office, in the said City and County of San Francisco, the day and year in this certificate first above written.

[Seal] Vincent P. Laguens

Notary Public In and For the City and County of
San Francisco, State of California.

My Commission will Expire Dec. 30, 1946 [16]

State of California,

County of Alameda—ss.

On this 8th day of November, in the year One Thousand Nine hundred and forty-three, before me, Nellie I. Phillips, a Notary Public in and for the County of Alameda, State of California, residing therein, duly commissioned and sworn, personally appeared E. E. Trefethen, Jr., known to me to be the Vice-President, and G. G. Sherwood, known

to me to be the Assistant Secretary of the Corporation that executed the within instrument and the officers who executed the within instrument on behalf of the Corporation therein named, and acknowledged to me that such Corporation executed the same.

In Witness Whereof, I have hereunto set my hand and affixed my Official Seal, the day and year in this certificate first above written.

[Seal]

NELLIE I. PHILLIPS

Notary Public In and For said County of Alameda,
State of California.

(Here Follows Petition for Removal of Cause to the United States District Court, for the Northern District of California, Southern Division Already Copied.)

[Endorsed]: Filed Nov. 9, 1943. [17]

[Title of Superior Court and Cause.]

SUMMONS

Action brought in the Superior Court of the State of California, in and for the County of Monterey, and the Complaint filed in the office of the County Clerk of said County of Monterey.

Bardin and Harrington,

615 Salinas National Bank Bldg.,
Salinas, Calif.

Attorney for Plaintiff.

The People of the State of California To:

The Permanente Metals Corporation, a corporation,
Defendant:

You are hereby directed to appear, and answer the Complaint in an action entitled as above, brought against you in the Superior Court of the State of California, in and for the County of Monterey, within ten days after the service on you of this Summons—if served within this County; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said Plaintiff will take judgment for any money or damages demanded in the Complaint, as [18] arising upon contract, or will apply to the Court for any other relief demanded in the Complaint.

Given under my hand and Seal of the Superior Court of the County of Monterey, State of California, this 13th day of October, A.D. 1943.

[Seal] EMMET G. MENAMIN,
Clerk

By JOSEPHINE QUATRINI
Deputy Clerk.

[Endorsed]: Filed Nov. 26, 1943. [18]

[Title of Superior Court and Cause.]

COMPLAINT

Plaintiffs complain of defendant and for cause of action allege:

1.

That the defendant is now and was at all times hereinafter mentioned a corporation.

2.

That plaintiffs are now, and were at all times hereinafter mentioned, the owners of the following described real property, situate in the County of Monterey, State of California, to-wit:

All that certain piece or parcel of land, situate in the County of Monterey and State of California, bounded and more particularly described as follows, to wit:

Being a part of the Natividad Rancho and beginning at the West side of the old Los Angeles Stage road, on the line between the land now or formerly of Henry Cowell and [20] lands now or formerly of S. Ollason on the Natividad Rancho; thence along a fence North 70 degrees and 15 minutes West 23.10 chains to the South-west corner of said Henry Cowell's land; thence South 35 degrees West 27.82 chains to a stake in a corner of a fence marked W. J.; thence South 26 degrees and 35 minutes East 9.00 chains to the West bank of the Gabilan Creek; thence crossing the Creek, South 83 degrees East 3.31 chains to the West side of the old Stage road thence following the West side of the road the fol-

lowing courses and distances: North 23 degrees East 4.66 chains; North 59 degrees and 30 minutes East 6.86 chains; North 74 degrees East 7.13 chains; North 18 degrees and 15 minutes East 1.00 chains; North 35 degrees and 30 minutes East 1.00 chain; North 46 degrees and 30 minutes East 1.92 chains; North 70 degrees and 45 minutes East 3.30 chains; South 87 degrees and 45 minutes East 1.00 chain; South 77 degrees and 30 minutes East 4.79 chains; North 26 degrees and 50 minutes East 8.56 chains; North 16 degrees and 20 minutes East 2.98 chains to the place of beginning, and containing 56.29 acres.

3.

That plaintiffs have now, and for more than fifteen (15) years last past have had, a valuable orchard on said premises, consisting of approximately fifty (50) acres of apricot trees and apple trees; that in addition to said orchard plaintiffs have also planted said premises to crops of beans and other vegetables.

4.

That defendant is the owner or lessee of certain real property situate about one-half mile distant from the lands of plaintiffs hereinbefore described; that on or about the 1st day of August, 1942, defendant constructed a large plant upon said property for the purpose of treating dolomite ore and as a part of said plant constructed large kilns and smoke stacks; that for more than one year last past defendant has almost daily fed into said kilns dolomite ore in great quantities; that through said kilns

and smoke stacks heated air and gases pass at the rate of many thousands of feet per minute; that as a result of the operations of defendant in said plant, large quantities [21] of dolomite dust, to the extent of twenty (20) tons per day or more, have passed through said smoke stacks daily, and thereafter, through the action of the winds and force of gravity, have been distributed over the surrounding territory, including plaintiffs' aforesaid premises.

5.

That an almost continuous shower of dolomite dust, emanating from defendant's aforesaid plant and caused by its operation, is, and for more than one year last past has been, falling upon the aforesaid premises of plaintiffs covering and coating the ground, forming a semi-cemented encrustation upon the upper sides of all foliage, and leaving ineradicable evidence of dust, dusty deposits, and grayish colorings resulting therefrom, upon the apricots and other fruits grown upon said premises.

6.

That the deposit of said dolomite dust upon said trees, as aforesaid, has greatly reduced the productivity of said orchard and has decreased the value of the fruit grown thereon; that plaintiffs are informed and believe, and therefore allege, that unless defendant is restrained and enjoined from depositing dolomite dust upon said orchard that said orchard will become worthless.

7.

That by reason of the aforesaid acts of defendant, plaintiffs lost practically their entire crop of apricots during the season of 1943, and plaintiffs will be obliged to expend large sums of money in order to remove the dolomite dust from said trees.

8.

That the acts of defendant are unlawful, and if it is permitted to continue its acts aforesaid, great and irreparable injury will be done plaintiffs; that plaintiffs have already [22] sustained damages from the acts aforesaid in the sum of Forty Thousand and no/100 (\$40,000.00) Dollars.

Wherefore, plaintiffs pray judgment for said sum of Forty Thousand and no/100 (\$40,000.00) Dollars damages and costs of suit. And they further pray that a permanent injunction be issued against the defendant, restraining and enjoining it from permitting dolomite dust from its plant to blow over and upon plaintiffs' premises. Plaintiffs pray for general relief.

BARDIN AND HARRINGTON
Attorneys for Plaintiffs

State of California

County of Monterey—ss.

B. Pista, being first duly sworn, deposes and says that: he is one of the plaintiffs in the foregoing Complaint named; that he has read and knows the contents thereof and that the same is true, except as to the matters and things therein stated to be on

information and belief, and as to those matters and things, he believes it to be true.

B. PISTA

Subscribed and sworn to before me this 13th day of October, 1943.

[Seal] J. T. HARRINGTON

Notary Public in and for the County of Monterey,
State of California.

[Endorsed] Filed Dec 7 1943 C. W. Calbreath,
Clerk.

[Endorsed]: Filed Oct. 13, 1943.

In the District Court of the United States in and
for the Northern District of California, South-
ern Division

No. 22983-R

B. PISTA and MARIE PISTA,

Plaintiffs,

vs.

THE PERMANENTE METALS CORPORA-
TION, a corporation,

Defendant.

ANSWER

Comes now defendant, The Permanente Metals Corporation, a corporation, and answering the complaint herein, admits, denies and alleges as follows:

I.

Answering paragraph 2 of said complaint, defendant is without knowledge or information sufficient to form a belief as to the truth of said averment, and basing its denial upon such lack of knowledge or information, denies each and every, all and singular the allegations of said paragraph 2.

II.

Answering paragraph 3 of said complaint, defendant is without knowledge or information sufficient to form a belief as [24] to the truth of said averment, and basing its denial upon such lack of knowledge or information, denies each and every, all and singular the allegations of said paragraph 3.

III.

Answering paragraph 4, defendant denies each and every, all and singular the allegations of said paragraph, commencing with the word "that" in line 31, page 2, and ending with the word "premises" in line 5, page 3.

IV.

Defendant denies each and every, all and singular the allegations of paragraphs 5, 6, 7 and 8. Defendant denies that plaintiffs have been damaged in the sum of \$40,000.00, or in any other sum.

Wherefore, defendant prays judgment that plaintiffs take nothing by their said complaint; that their prayer for a permanent injunction be denied; and

that defendant have judgment for its costs of suit herein incurred.

MAX THELEN

THOMAS K. McCARTHY

THELEN, MARRIN, JOHN-
SON & BRIDGES

Attorneys for Plaintiff [25]

State of California

County of Alameda—ss.

E. E. Trefethen, Jr., being first duly sworn, says:

That he is an officer of defendant herein, The Permanente Metals Corporation, a corporation, to-wit, vice-president thereof, and that he makes this verification on its behalf.

That he has read the within and foregoing answer, and knows the contents thereof, and that the same is true of his own knowledge, except as to the matters which are therein stated on information or belief, and as to those matters that he believes it to be true.

E. E. TREFETHEN, Jr.

Subscribed and sworn to before me this 11th day of December, 1943.

[Seal]

PAUL E. ROGERS

Notary Public in and for the County of Alameda,
State of California.

(Acknowledgement of Receipt of Copy)

[Endorsed]: Filed Dec. 11, 1943. C. W. Calbreath, Clerk. [26]

District Court of the United States, Northern
District of California, Southern Division

At a Stated Term of the Southern Division of the United States District Court for the Northern District of California, held at the Court Room thereof, in the City and County of San Francisco, on Tuesday, the 12th day of September, in the year of our Lord one thousand nine hundred and forty-four.

Present: the Honorable Michael J. Roche, District Judge.

[Title of Cause.]

TRIAL WITHOUT JURY

This case came on regularly this day for trial before the Court sitting without a jury. George Naus, Esq. and J. F. Harrington, Esq. were present on behalf of the plaintiffs, and Courtney Moore, Esq. and Thomas K. McCarthy, Esq. were present on behalf of the defendant. Mr. Naus made an opening statement. B. Pista and William Lewis were sworn and each testified on behalf of the plaintiffs. Mr. Naus introduced in evidence and filed Plaintiffs' Exhibits Nos. 1 and 2, and offered a certain exhibit which was marked Plaintiffs' Exhibit No. 3 for Identification. It is Ordered that this case be continued to September 13, 1944, for further trial. [27]

District Court of the United States, Northern
District of California, Southern Division

At a Stated Term of the Southern Division of the United States District Court for the Northern District of California, held at the Court Room thereof, in the City and County of San Francisco, on Wednesday, the 13th day of September, in the year of our Lord one thousand nine hundred and forty-four.

Present: the Honorable Michael J. Roche, District Judge.

[Title of Cause.]

TRIAL RESUMED

The parties hereto being present as heretofore, the further trial of this case was this day resumed. F. T. Twining and Louis Pista were sworn and testified on behalf of the plaintiffs. Mr. Naus introduced in evidence and filed Plaintiffs' Exhibits Nos. 4, 5, and 6, and the plaintiff rested. Mr. Moore introduced in evidence and filed Defendant's Exhibits A to G, inclusive. L. H. Duschak was sworn and testified on behalf of the defendant. It is Ordered that this case be continued to September 14, 1944, for further trial. [28]

District Court of the United States, Northern
District of California, Southern Division

At a Stated Term of the Southern Division of the United States District Court for the Northern District of California, held at the Court Room thereof, in the City and County of San Francisco, on Thursday, the 14th day of September, in the year of our Lord one thousand nine hundred and forty-four.

Present: the Honorable Michael J. Roche, District Judge.

[Title of Cause.]

TRIAL RESUMED

The parties hereto being present as heretofore, the further trial of this case was this day resumed. L. H. Duschak was recalled and gave further testimony on behalf of the defendant. Mr. Naus offered certain exhibits which were marked Plaintiffs' Exhibits Nos. 7, 10 and 11 for identification. Mr. Naus introduced in evidence and filed Plaintiffs' Exhibits 8 and 9. Mr. Moore introduced in evidence and filed Defendant's Exhibits H, I, J and K. It Is Ordered that this case be continued to September 15, 1944, for further trial. [29]

District Court of the United States, Northern
District of California, Southern Division

At a Stated Term of the Southern Division of the United States District Court for the Northern District of California, held at the Court Room thereof,

in the City and County of San Francisco, on Friday, the 15th day of September, in the year of our Lord one thousand nine hundred and forty-four.

Present: the Honorable Michael J. Roche, District Judge.

[Title of Cause.]

TRIAL RESUMED

The parties hereto being present as heretofore, the further trial of this case was this day resumed. J. J. Wilmoth, William Eipper, and J. M. Garoutte were sworn and each testified on behalf of the defendant. L. H. Duschak was recalled and gave further testimony on behalf of the defendant. Mr. Moore introduced in evidence and filed Defendant's Exhibit L. Mr. Naus offered certain exhibits which were marked Plaintiffs' Exhibits Nos. 12, 13, 14, 15 and 16 for identification. It is Ordered that this case be continued to September 20, 1944, for further trial. [30]

District Court of the United States, Northern
District of California, Southern Division

At a Stated Term of the Southern Division of the United States District Court for the Northern District of California, held at the Court Room thereof, in the City and County of San Francisco, on Wednesday, the 20th day of September, in the year of our Lord one thousand nine hundred and forty-four.

Present: the Honorable Michael J. Roche, District Judge.

[Title of Cause.]

TRIAL RESUMED

The parties hereto being present as heretofore, the further trial of this case was this day resumed. Fred Lohse and Walter Packard were sworn and each testified on behalf of the defendant. Mr. Moore introduced in evidence and filed Defendant's Exhibits M, O, T, U, V and Y, and offered certain exhibits which were marked Defendant's Exhibits N, P, Q, R, S, W and X for identification. Leo Anderson was sworn and testified on behalf of the plaintiff. Mr. Naus offered a certain exhibit which was marked Plaintiffs' Exhibit No. 17 for identification. It Is Ordered that this case be continued to September 21, 1944, for further trial. [31]

District Court of the United States, Northern
District of California, Southern Division

At a Stated Term of the Southern Division of the United States District Court for the Northern District of California, held at the Court Room thereof, in the City and County of San Francisco, on Thursday, the 21st day of September, in the year of our Lord one thousand nine hundred and forty-four.

Present: the Honorable Michael J. Roche, District Judge.

[Title of Cause.]

TRIAL RESUMED
ORDERED BRIEFS FILED

The parties hereto being present as heretofore, the further trial of this case was this day resumed. Walter Packard was recalled and gave further testimony on behalf of the defendant. Mr. Moore introduced in evidence and filed Defendant's Exhibit N-1 and offered a certain exhibit which was marked Defendant's Exhibit Z for identification, and the defendant rested. Max Miller was sworn and testified on behalf of the plaintiffs in rebuttal. F. T. Twining and Wm. Lewis were recalled and gave further testimony on behalf of the plaintiffs and both sides rested. It is Ordered that briefs be filed in 15, 15 and 15 days. Further Ordered that this case be continued to November 7, 1944, for further trial. [32]

District Court of the United States, Northern
District of California, Southern Division

At a Stated Term of the Southern Division of the United States District Court for the Northern District of California, held at the Court Room thereof, in the City and County of San Francisco, on Monday, the 6th day of November, in the year of our Lord one thousand nine hundred and forty-four.

Present: the Honorable A. F. St. Sure, District Judge.

[Title of Cause.]

ORDER SUBMITTING CASE

On motion of Geo. Naus, Esq., on behalf of the plaintiff, it is Ordered that this case stand submitted. [33]

District Court of the United States, Northern
District of California, Southern Division

At a Stated Term of the District Court of the United States for the Northern District of California, Southern Division, held at the Court Room thereof, in the City and County of San Francisco, on Tuesday, the 28th day of November, in the year of our Lord one thousand nine hundred and forty-four.

Present: the Honorable Michael J. Roche, District Judge.

[Title of Cause.]

JUDGMENT ORDERED—INJUNCTION DENIED

It is Ordered that judgment be entered herein in favor of the plaintiffs and against the defendant in the sum of \$9,903.84, together with costs, upon findings of fact and conclusions of law. It is further Ordered that the application for injunction be and the same is hereby denied without prejudice. [34]

District Court of the United States, Northern
District of California, Southern Division

At a Stated Term of the District Court of the United States for the Northern District of California, Southern Division, held at the Court Room thereof, in the City and County of San Francisco, on Tuesday, the 12th day of December, in the year of our Lord one thousand nine hundred and forty-four.

Present: the Honorable Michael J. Roche, District Judge.

[Title of Cause.]

**DEFENDANT'S PROPOSED AMENDMENTS TO FINDINGS OF FACT, etc.
OVERRULED—JUDGMENT ENTERED**

It is Ordered that the defendant's proposed amendments to the findings of fact and conclusions of law be overruled, and that a judgment be filed and entered in favor of the plaintiffs and against the defendant in the sum of \$9,903.84, with costs, in accordance with the findings of fact and conclusions of law this day filed. [35]

[Title of District Court and Cause.]

FINDINGS OF FACT

The Court finds the following to be the facts:

I. Continuously from a date prior to the commencement of this action (a) the plaintiffs have been citizens of the State of California, and (b) de-

fendant has been a corporation incorporated under the laws of the State of Delaware. The matter in controversy exceeds, exclusive of interest and costs, the sum of \$3,000.00.

II. Plaintiffs are the owners of the real property described in paragraph 2 of their complaint and it consists of a ranch of approximately 56 acres, of which 44 acres comprise an apricot orchard which has been in full commercial bearing since approximately the year 1922. The exterior boundary of said orchard [36] nearest the stacks hereinafter mentioned is approximately half a mile therefrom and the farthest exterior boundary is approximately one mile from said stacks.

III. In the Natividad district, in Monterey County, California, the defendant has operated continuously since August 4, 1942, a dolomite quarry and calcine plant, the latter consisting of two rotary kilns in which crushed dolomite ore from said quarry is calcined at a temperature sufficiently high to expel from said ore the carbon dioxide therein, which is expelled in the form of a stream of hot gas into the atmosphere through two stacks, one to each of said kilns. Said stream of gas carries with it into the atmosphere extremely fine particles, i.e., dust, from said crushed ore. From the commencement of the operation, as aforesaid, in August, 1942, until a year thereafter, in August, 1943, said dust was discharged out of said stacks into the atmosphere at an average rate of approximately 32 tons daily. In August, 1943, defendant installed as a part of said operation a mechanism known as a Cottrell

precipitator, and since that installation the quantity of dust discharged from said stacks into the atmosphere has been reduced to a daily average of approximately 4 or 5 tons.

IV. Said dust, after discharge into the atmosphere, falls upon the ground and the vegetation thereon within a roughly circular area having a radius of approximately 3 miles from said stacks.

V. The dustfall, as aforesaid, was continuous upon said orchards of plaintiffs throughout the whole of the apricot blossoming time therein in the early part of the year 1943, and as a proximate result thereof caused said apricot orchard to yield 133.475 tons of apricots less than the yield would have been otherwise. Said apricots had a market value of \$74.20 a ton, net after deduction of all harvesting, packing, shipping and selling expenses; and the plaintiffs were therefore damaged by said dustfall in the amount of \$9,903.84. [37]

VI. The dustfall in said orchard has been adding the ingredients of dolomite ore to the soil of said orchard, cumulatively, but the evidence does not show that either the soil or the trees of said orchard are, or have been, injured thereby thus far. The end product of the operations of defendant is metallic magnesium, a war material. Injunctive relief should not be granted at the present time.

CONCLUSIONS OF LAW

1. An injunction should be denied, without prejudice.

2. Plaintiffs should have and recover the sum of \$9,903.84 of and from defendant, with costs of suit taxed in the sum of \$428.50.

Dated December 12th, 1944.

MICHAEL J. ROCHE

United States District Judge.

(Acknowledgement of Receipt of Copy)

[Endorsed]: Filed Dec. 12, 1944. [38]

In the District Court of the United States in and for the Northern District of California, Southern Division.

No. 22983-R

B. PISTA and MARIA PISTA,

Plaintiffs,

vs.

THE PERMANENTE METALS CORPORATION,
a corporation,

Defendant.

JUDGMENT

This matter having come on regularly for trial of the issues of fact raised by the complaint and answer, and the matter having been regularly tried on September 12, 13, 14, 15, 20 and 21, and regularly submitted for decision, and the Court having made and filed Findings of Fact and Conclusions of Law, and good cause appearing, it is

Adjudged:

1. That an injunction is hereby denied, without prejudice.

2. That plaintiffs have an recover of and from defend- [39] ant the sum of \$9,903.84, with costs of suit taxed in the sum of \$428.50.

Dated December 12th, 1944.

MICHAEL J. ROCHE

United States District Judge.

(Acknowledgement of Receipt of Copy)

[Endorsed]: Filed Dec. 12, 1944. [40]

[Title of District Court and Cause.]

NOTICE OF INTENTION TO MOVE

FOR A NEW TRIAL

To B. Pista and Marie Pista, plaintiffs and to George M. Naus, Bardin & Harrington, their attorneys:

You and each of you will please take notice that the defendant intends to move the above entitled court to vacate and set aside the decision of the court rendered in the above entitled action and to grant a new trial of said cause, upon the following grounds, materially affecting the substantial rights of the defendant, to-wit:

I.

Excessive damages appearing to have been given under the influence of passion or prejudice; [41]

II.

Insufficiency of the evidence to justify the decision of the court in that no material evidence produced justifies a decision of the court relative to the damages. That all the evidence which was produced was mere opinion, surmise and conjecture and does not justify the decision of the court relative to damages;

III.

Error in law occurring at the trial and excepted to by the defendant;

IV.

The decision is against law in that the evidence which was given and the statements of the court show that an injunction was denied for the reason as stated by the court that there is no evidence that after the installation of a dust precipitator, that the orchard of the plaintiff was in any way injured after such installation. That the findings of fact as signed by the court are not based upon such lack of evidence, but are contrary to the evidence and carry the inference that said injunction was denied due to the fact that the dolomite plant of the defendants was being used in an essential war industry; and

V.

Error of law in that the finding of the court from which the injunction was denied is contrary to the evidence.

Dated: December 21, 1944.

THELEN, MARRIN, JOHN-
SON & BRIDGES

COURTNEY L. MOORE

Attorneys for Defendant

(Acknowledgment of Receipt of Copy.)

[Endorsed]: Filed Dec. 21, 1944. [42]

[Title of District Court and Cause.]

NOTICE OF MOTION HEREIN TO MOVE
FOR NEW TRIAL

To B. Pista and Marie Pista, plaintiffs and to
George M. Naus, Bardin & Harrington, their
attorneys:

The defendant in the above entitled action having herewith filed his notice of intention to move for a new trial, hereby gives notice that said defendant will move the above entitled court on Tuesday, January 2, 1945 for a new trial, and also will move the above entitled court that the judgment be opened and a new decision be rendered by striking out paragraph VI of said findings and inserting in lieu thereof the following:

VI. That after the installation of the mechanism known as the Cottrell Precipitator, and which precipitator was in operation during the 1944 crop season, the plaintiff had the second largest crop in the history of his orchard, namely, 450 tons; that said

fruit for the year 1944, with the Cottrell [43] Precipitator in operation, was not injured or damaged by any dust deposit on the fruit, on the trees, or on the ground; and the evidence does not show either the soil or the trees of said orchard are or have been injured thereby so far.

Dated: December 21, 1944.

THELEN, MARRIN, JOHN-
SON & BRIDGES

COURTNEY L. MOORE

Attorneys for Defendant

(Acknowledgment of Receipt of Copy.)

[Endorsed]: Filed Dec. 21, 1944. [44]

District Court of the United States, Northern
District of California, Southern Division

At a Stated Term of the District Court of the United States for the Northern Division of California, Southern Division, held at the Court Room thereof, in the City and County of San Francisco, on Tuesday, the 2nd day of January, in the year of our Lord one thousand nine hundred and forty-five.

Present: the Honorable Michael J. Roche, District Judge.

[Title of Cause.]

MOTION FOR NEW TRIAL DENIED—10 DAY
STAY OF EXECUTION ON JUDGMENT

This case came on regularly this day for hearing

of motion for a new trial. After hearing the arguments of Courtney Moore, Esq., on behalf of the defendant, and George Naus, Esq., on behalf of the plaintiff, it is Ordered that said motion be denied. On motion of Mr. Moore, and with the consent of Mr. Naus, it is Ordered that the defendant may have a ten-day stay of execution on the judgment.

[Title of District Court and Cause.]

ORDER

The defendant having duly moved for an amendment of the findings and for a new trial, and the two motions having come on regularly for hearing, and good cause appearing, it is

Ordered:

1. The motion for a new trial is denied.
2. The motion to amend the findings is granted by striking out present paragraph VI thereof and inserting in lieu thereof the following:

“VI. That after the installation of the mechanism known as the Cottrell Precipitator, and which precipitator was in operation during the 1944 crop season, the plaintiff had the second largest crop in the history of his [46] orchard, namely, 450 tons; that said fruit for the year 1944, with the Cottrell Precipitator in operation, was not injured or damaged by and dust deposit on the fruit, on the trees, or on the ground; and the evidence does not show either the soil or the trees of said orchard are or have been injured thereby so far.”

Dated January 2, 1945.

MICHAEL J. ROCHE

United States District Judge

Approved as to form:

GEO. M. NAUS

Attorney for Plaintiffs

COURTNEY L. MOORE

Attorney for Defendant

[Endorsed]: Filed Jan. 4, 1945. [47]

[Title of District Court and Cause.]

NOTICE OF APPEAL

To the Clerk of the Above Entitled Court:

You will please take notice, and notice is hereby given, that the above named defendant, The Permanente Metals Corporation, a corporation, appeals to the United States Circuit Court of Appeals, for the Ninth Circuit, from the following part of that certain judgment rendered in said District Court of the United States in and for the Northern District of California, Southern Division, in the above entitled cause on the 12th day of December, 1944, in favor of the above named plaintiffs and against the above named defendant, to-wit: That portion of the judgment whereby and wherein it was adjudged that plaintiffs have and recover of and from the defendant the sum of \$9,903.84, [48] with costs of suit taxed in the sum of \$428.50.

Dated: January 10th, 1945.

MAX THELEN

THOMAS K. McCARTHY

COURTNEY L. MOORE

THELEN, MARRIN, JOHN-
SON & BRIDGES

Attorneys for Defendant and
Appellant

[Endorsed]: Filed Jan. 11, 1945. [49]

[Title of District Court and Cause.]

APPELLANT'S DESIGNATION OF
THE RECORD

Appellant, The Permanente Metals Corporation, having appealed from a portion of the judgment rendered in the above-entitled action, hereby designates the following portions of the record, proceedings and evidence to be contained in the record on appeal in this action:

1. The record on removal from the Superior Court of the State of California, in and for the County of Monterey.
2. The answer of defendant to the complaint.
3. The reporter's transcript (original).
4. All minutes made by the Clerk.
5. The findings of fact and conclusions of law.
6. The judgment.
7. The notice of intention to move for a new trial. [50]

8. The notice of motion to move for a new trial.
9. The order on motion for new trial.
10. The notice of appeal.
11. The statement of points on which appellant intends to rely.
12. Order for transmission of original exhibits.
13. This designation of the record.

Dated, February 8, 1945.

THELEN, MARRIN, JOHN-
SON & BRIDGES

COURTNEY L. MOORE

Attorneys for Defendant and
Appellant

(Acknowledgement of Receipt of Copy)

[Endorsed]: Filed Feb. 8, 1945. [51]

[Title of District Court and Cause.]

STATEMENT OF POINTS OF APPELLANT,
THE PERMANENTE METALS CORPORA-
TION

The points upon which appellant intends to rely on this appeal are as follows:

1. The evidence does not support that portion of the judgment awarding monetary damages in favor of plaintiffs and against defendant.

2. The Court erred in finding that dust from defendant's operations caused damage to plaintiffs' 1943 apricot crop.

hibits received or marked at the trial of this action should be inspected by the appellate court and sent to the appellate court in lieu of copies pursuant to Rule 75(i) of the Rules of Civil Procedure, it is

Ordered that the Clerk of this District Court forward said exhibits to the Clerk of the United States Circuit Court of Appeals, [55] Ninth Circuit, to be held by the latter clerk for the use of the appellate court until the decision of the appellate court on the appeal from the judgment taken by the defendant.

MICHAEL J. ROCHE

United States District Judge

By consent:

G. E. NAUS

BARDIN & HARRINGTON

Attorneys for Plaintiffs.

THELEN, MARRIN, JOHN-
SON & BRIDGES

COURTNEY L. MOORE

Attorneys for Defendant.

[Endorsed]: Filed Feb. 9, 1945. [56]

[Title of Court and Cause.]

ORDER EXTENDING TIME TO DOCKET

Good cause appearing therefor, it is hereby Ordered that the Appellants herein may have to and including March 31, 1945, to file the Record on Appeal in the United States Circuit Court of Appeals in and for the Ninth Circuit.

Dated: February 20, 1945.

MICHAEL J. ROCHE

United States District Judge.

[Endorsed]: Filed Feb. 20, 1945. [57]

District Court of the United States
Northern District of California

CERTIFICATE OF CLERK TO TRANSCRIPT
OF RECORD ON APPEAL

I, C. W. Calbreath, Clerk of the District Court of the United States, for the Northern District of California, do hereby certify that the foregoing 57 pages, numbered from 1 to 57, inclusive, contain a full, true, and correct transcript of the records and proceedings in the case of B. Pista and Marie Pista, Plaintiffs, vs. The Permanente Metals Corporation, a corporation. Defendants, No. 22983 R, as the same now remain on file and of record in my office.

I further certify that the cost of preparing and certifying the foregoing transcript of record on appeal is the sum of \$6.95 and that the said amount has been paid to me by the Attorney for the appellant herein.

In Witness Whereof, I have hereunto set my hand and affixed the seal of said District Court at San Francisco, California, this 22nd day of March A. D. 1945.

[Seal]

C. W. CALBREATH,

Clerk

By E. VAN BUREN

Deputy Clerk

In the Southern Division of the United States
District Court, in and for the Northern
District of California

No. 22983-R

B. PISTA and MARIE PISTA,

Plaintiffs,

vs.

THE PERMANENTE METALS CORPORA-
TION. a corporation,

Defendant.

Tuesday, September 12, 1944

Before: Hon. Michael J. Roche, Judge.

Counsel Appearing:

For Plaintiffs: Messrs. Bardin and Harrington,
by J. T. Harrington, Esq., and George
M. Naus, Esq.

For Defendant: Courtney L. Moore, Esq., and
Thomas K. McCarthy, Esq.

Mr. Naus: If the Court please, in this suit,
brought by the Pistas against the Permanente
Metals Corporation, the plaintiff owned an orchard.
The location will be given in the evidence. It is
not far from Salinas. It is within, roughly, a half
mile in distance from the plant of The Permanente
Corpora- [1*] tion down there that has to do with
the quarrying of ore. I think it is called domite,

*Page numbering appearing at top of page of original certified Transcript.

and then processing it, and ending up with dust coming out in the atmosphere at a considerable height from the stacks, there, and being carried by the atmosphere to the orchard, and being deposited in the orchard, on the leaves, and so on. The relief asked is the damage to the crop or crops already done, and for an injunction against the continuance of the acts complained of.

The complaint sought a temporary and permanent injunction, but after a conference with the plaintiff and his personal attorney, Mr. Harrington, of Salinas, who is here, we concluded not to press the application for a temporary injunction, because our information was that this plant has engaged in some activity—not entirely clear to me, and I am not pressing now to find out—but some activity having to do with the war effort, and we concluded to wait until the final hearing, which is on at this time.

I will ask that the Clerk mark a couple of documents as to which there is no controversy here and designed primarily to give the location of things. First is a diagram to scale showing the outer boundaries of the Pista orchard, compass direction, and the distance from the Permanente plant. I have an extra copy of that, if you would like to take it along, Mr. Moore. He has only seen it this morning, and if he finds any corrections in it, they may be brought to our attention at any [2] time, your Honor.

Mr. Moore: We have no objection, subject to that understanding, your Honor.

Mr. Naus: Subject to his correction.

(The diagram was marked Plaintiff's Exhibit 1 in evidence.)

Mr. Moore: Pardon me. I do not like to interrupt you, but it might clarify things. Who drew this map?

Mr. Naus: Mr. Harrington, who drew the map?

Mr. Harrington: The Monterey County surveyors.

Mr. Naus: What data was it drawn from?

Mr. Harrington: From the photograph that you have in your hand, the original.

Mr. Moore: There are no measurements of distance on here, are there?

Mr. Naus: No, simply a scale alongside the compass direction. It would have to be scaled. The pleadings, themselves, admit, if the Court please, that the orchard was within a half mile of the plant, but I feel it would be difficult to follow some of the witnesses unless we have something graphic before us.

Next, I have in my hand, through the courtesy of counsel, Mr. Moore, one of the airplane photos of the neighborhood. Your Honor is familiar generally with the series of airplane pictures taken around the country. This is one that hits on that spot, and there is some writing on here in purple or violet ink, pre- [3] sumably put on by defense counsel, or someone connected with them, all of which we accept, because they are simply identifications of places. I will ask that the clerk mark

this next in order. And down in here at the part marked "Plant Area" is where the stacks are. The Pista orchard is not shown in full on here because the photograph does not extend far enough forward, but it shows one little point at the edge of it and gives the location, which, compared to the other diagram, will place it for you.

(The photograph was marked Plaintiff's Exhibit 2 in evidence.)

Mr. Naus: I will call a witness in a moment, but before doing that I will say that we expect the evidence to show, and we believe the fact to be, that the dust coming from these stacks was far greater in volume with relation to what would be called the 1943 crop of apricots than it was for the 1944 crop of apricots. We do not concede that no damage at all was done to the 1944 crop, but we have concluded to make no effort to prove any damage in dollars to the 1944 crop, and our proof of damages in dollars will be with respect to the 1943 crop. I will call Mr. Pista.

B. PISTA,

called as a witness by plaintiff; sworn.

The Clerk: Q. Will you state your name? [4]

A. I don't talk English.

The Court: He wants to know your name.

Direct Examination

Mr. Naus: Q. Your name is B. Pista, one of the plaintiffs, is that correct?

A. B. Pista, yes.

(Testimony of B. Pista.)

Q. Now, Mr. Pista, this apricot orchard that is near the Permanente plant, you have been the owner and in possession of that orchard and running it for a great many years, haven't you? A. Yes.

Q. How many acres do you own there, altogether? A. Sixty-six.

Q. Sixty-six or fifty-six? A. Fifty-six.

Q. Fifty-six acres. Of those fifty-six acres, some of them have been planted for some years to apricots, haven't them? Just say "Yes" or "No."

A. Yes.

Q. How many acres are in apricots?

A. 44 acres.

Q. What are the other twelve acres in?

A. Eight acres of apples.

Q. Eight acres of apples? A. Yes.

Q. That leaves four acres. What are those four acres in?

A. Well, building and creek about four acres.

Q. This map shows a creek called Gabilan Creek that goes the length of your property. The space taken up by that creek and by your building on the property takes up, altogether, about four acres, is that correct? A. Yes.

Q. Those 44 acres of apricot trees were set out or planted when? [5]

A. Planted, some of them, 1911.

Q. In the year 1911? A. Yes.

Q. You say some of them?

A. Most of them.

(Testimony of B. Pista.)

Q. When were the rest of them planted?

A. 1916.

Q. In other words, the 44 acres of apricots were planted from the year 1911 to the year 1916 completely? A. Yes.

Q. How long did it take the trees after planting or setting out to come into commercial bearing?

A. Up to six or seven years, start to come in full.

Q. I take it within six or seven years after the year 1916 those 44 acres of apricots have been in full commercial bearing? A. Yes, yes.

Q. During the years that those trees have been in full bearing, which would be apparently from 1922 or 1923, from then up to the year 1943, what is the smallest tonnage of apricots that you have gotten off of them in any one year, and what is the largest tonnage?

Mr. Moore: I think we ought to have something more definite than that, your Honor. It is preliminary, I suppose.

Mr. Naus: I do not know how it could be more definite. I am trying to find the minimum and maximum volumes of an apricot orchard over a period of twenty years.

The Court: Develop it on cross-examination.

A. The smallest crop, about 119 tons and the biggest crop 450. [6]

Mr. Naus: Q. Before 1943?

A. It was 119 least crop there.

Q. The smallest?

(Testimony of B. Pista.)

A. Yes. The biggest crop of all was 450 tons.

Mr. Moore: I didn't get that.

Mr. Naus: His answer, Mr. Moore, as I understand it, was in the period I asked about——

The Court: You are slighting the reporter. Let him read the answer.

(Answer read.)

Mr. Naus: Q. What time of the year does that apricot orchard come into blossom?

A. Well, it comes some years ten days late, some years it come early ten days.

Q. I know, but what month of the year?

A. From 25th February to about the 3rd March.

Q. During the blossom time in the year 1943 state whether or not any dust from the Permanente plant was falling on your apricot orchard?

A. Yes, all covered with white, white dust from the mine.

Mr. Naus: I will ask another witness I am going to call, Mr. Twining, to produce a box of samples, if your Honor please.

Will you mark this for identification, this cigar box contents?

(The cigar box contents were marked Plaintiff's Exhibit 3 For Identification.)

Mr. Naus: Q. Mr. Pista, do you remember sending a cigar box with leaves in it over to Mr. Twining, at Fresno, at some [7] time?

A. Yes, I did.

(Testimony of B. Pista.)

Q. Does that look like what you sent over to him? Mr. Twining has just given it to me.

A. Yes.

Q. Where were the leaves in that box gotten by you, and when? Where did you get those leaves, and when?

A. Where I got them?

Q. Yes.

A. On the ranch—I forget what day.

Q. What month? What year?

A. Oh, 1942—1943.

Mr. Moore: What year?

Mr. Naus: He said 1942-1943.

The Witness: No, 1943.

Mr. Naus: Q. When you said the ranch, what ranch did you mean, your own?

A. My ranch.

Q. As you go through there, what looks like something white or dust on those leaves——

A. I pick them from trees like that.

Q. Just a minute. You see what looks like white dust in there. Where did that dust come from?

A. It come from—I can't explain—from the Kaiser plant, but I can't explain very good.

The Court: He has some difficulty.

Mr. Naus: Q. You mean from the Permanente Corporation plant?

A. Yes.

Q. There is a quarry there as well as a plant, isn't there?

A. Yes.

Q. You mean that is where it came from, those places?

A. Yes, I see it with my eyes.

(Testimony of B. Pista.)

Q. State over how long a period dust from that place has been [8] coming over onto your apricot orchard, beginning when and running until when?

A. When they built it, right away started to come on my ranch.

Q. The judge doesn't know when they built it.

A. 1942.

Q. Do you remember about when in 1942 it started, as best you can recall?

A. They started in the springtime, I think, you know, and they finished sometime in August.

The Court: Q. They started sometime in the spring and finished in August; is that what you said?

A. Yes. Well, to the best of my memory.

Mr. Naus: Q. Tell me this: Had you harvested the crop of apricots from your orchard in the year 1942 before or after the dust started coming over?

A. I harvested before they came 1942.

Q. So you had the 1942 crop of apricots off before the dust started? A. Yes.

Q. Has the dust ever stopped coming onto your orchard from the time the plant started to operate?

A. Yes.

Q. When?

A. They started right away, really started when they started to run it. It came right away.

Q. That is not what I asked. My question is, from the time the dust started coming over onto your orchard has it ever stopped coming since?

(Testimony of B. Pista.)

A. Never stopped. All the time, you know.

Q. And through the year, through the season, how often are you out to that area—you, personally? How often do you go out there and see what is going on?

A. Well, I go two or three times [9] a week.

Q. You live where?

A. I live Watsonville.

Q. How near Salinas is this apricot orchard?

A. Well, when I pick——

Q. No, I say how near Salinas is the apricot orchard?

The Court: Q. How far?

A. Oh, 18 miles.

Mr. Naus: Q. In the year 1943 how many tons of apricots did you harvest and sell?

A. 1943——

Q. 1943. A. 27 tons.

Q. What was the condition of the fruit? Was it clean fruit? Was there dust on it, or describe it to the court.

A. All white like snow.

Q. White from what? Where did the white come from?

A. From that plant.

Q. Since you harvested the 1943 crop has the amount of dust that comes from that plant been more or has it been less?

A. No, it keeps steady the same.

Q. Is there as much dust on the 1944 crop as——

A. No, no.

Mr. Moore: I object to counsel leading the wit-

(Testimony of B. Pista.)

ness. He said "Just the same." Counsel is now asking questions of a highly leading nature, your Honor.

Mr. Naus: I have not put the question yet. May I put the question?

Mr. Moore: From the part stated it was evident it was leading. [10]

Mr. Naus: The Court says I may now finish the question, Mr. Moore.

The Court: There is a difficult situation. Both sides recognize it. He has some difficulty following the questions.

Mr. Naus: I am not seeking to lead him; I am seeking to get along with the situation as best I can.

The Court: Proceed.

Mr. Naus: I will put it this way, Mr. Pista:

Q. Was there more dust or less dust, or the same amount of dust on the apricots in 1944 as there was in 1943? A. Oh, 1943 three times more.

Q. Have you or not since your orchard has been in bearing there, sold apricots on the open market every year? A. Yes.

Q. Have you or not been familiar with the price that apricots from your orchard would bring on the open market through all those years? Just say "Yes" or "No," please.

The Court: Q. Do you understand the question?

A. No.

Mr. Naus: Then I will put it again.

(Testimony of B. Pista.)

Q. Have you kept in touch with the market where apricots are sold? Have you kept in touch with it through the years, so that each year you knew the price your apricots would bring?

A. The price depends on the crop. Sometimes get more price, some years less.

Q. I just want to know if you have been in touch with it. "Yes" or "No." Have you been in touch with it so that you knew what [11] the market was each year? A. Yes.

Q. What time of the year do the apricots get ripe so they can be picked off the trees and shipped and sold? What month of the year?

A. Some years start before ten days. This year it was later than ten days.

Q. What month of the year?

A. It would be started first of July. One year the 27th of June. This year started the 9th of July, you know, some fifteen days difference.

Q. How long does the picking of the fruit continue? How long does it take to pick the whole crop each year? A. About six weeks.

Q. In the year 1943, in the months of July and August, 1943, when the crop was being picked, what would be the price of apricots from your orchard in the market if there had been no dust?

Mr. Moore: Just a moment. I think that question is argumentative and assuming a lot of facts, that there was any change in the price of apricots due to dust.

(Testimony of B. Pista.)

Mr. Naus: I have not assumed that one way or the other. I have tried to find what the state of the market was.

The Court: I know what you are trying to find, but if the reporter reads that question I am quite sure you will withdraw it. Read the question.

Mr. Naus: Will your Honor indicate to me why you wish me to? [12]

The Court: Read the question.

(Question read.)

The Court: I do not see how it is possible to answer that.

Mr. Naus: Pardon me?

The Court: There was dust.

Mr. Naus: I know, but then there was dust——

The Court: If there wasn't dust, could he determine?

Mr. Naus: Here is a man who is familiar with the market. He knows what it is.

The Court: You will have to develop the facts, whatever they are.

Mr. Naus: My question is only to find out what the market was for apricots affected by dust.

The Court: Read that question again. It may be.

(Question re-read.)

If there had been no dust—I can't follow it.

Mr. Naus: If there had been no dust on the apricots. We want to show what the market was for undamaged apricots.

(Testimony of B. Pista.)

Mr. Moore: I think there is a way to establish that. They go in grades and all sorts of things. There are State reports and various other ways of showing what the prices of apricots were, but to ask him what he considered the price——

The Court: My task is simpler. If he can answer it, he may answer it. I am attempting to follow it. That was my point. [13]

Mr. Naus: I will reframe the question, then, to clear up the situation.

Q. At what price or prices were fresh apricots being bought and sold in the market in the months of July and August, 1943?

Mr. Moore: Just a minute, please. You say in the market. Do you mean at Salinas, or where? I think the question is indefinite.

Mr. Naus: Is that an objection?

Mr. Moore: It is an objection. I object to the question as being indefinite. Fix the market? Are you referring to San Francisco, Los Angeles, or where?

The Court: Read the question.

(Question read.)

The Court: If he knows he may answer.

A. Well, they sold, you know, San Francisco—— they sold——

The Court: You see, your question is being answered now, Mr. Moore. Go on.

The Witness: They sold in San Francisco \$2

(Testimony of B. Pista.)

and \$1.90 a box. Los Angeles sold some 10, some 12½, some 13, and some dumping—no good because of the dust.

Mr. Naus: Will you read that answer, Mr. Reporter?

(Answer read.)

Mr. Naus: Q. \$2 and \$1.90 a box in San Francisco?

A. Yes.

Q. I would like to follow that up. In San Francisco are apricots bought and sold by the box or by the pound? A. By the box. [14]

Q. That price of \$2 or \$1.90 is by the box, is that correct? A. Yes.

Q. In Los Angeles are apricots bought or sold by the box or by the pound?

A. By the pound.

Q. And when you gave the figure of 10, 11 or 12, or whatever it was, you meant dollars, pennies, or what? You mean cents per pound?

A. Yes.

The Court: He has some difficulty in following you.

Mr. Naus: Yes, I understand. I am attempting to avoid leading him. I think this is a matter about which there can be little dispute.

Q. Mr. Pista, when you say 10, 11 or 12 at Los Angeles, do you mean in Los Angeles apricots are bought or sold by the pound? A. Yes.

(Testimony of B. Pista.)

Q. And you mean 10, 11, or 12 cents a pound, don't you? A. Yes.

Q. And when you say \$2 or \$1.90 in San Francisco, you mean by the box, don't you?

A. In San Francisco, by the box.

Q. How many pounds of apricots are there in a box?

A. Oh, if you fill them nice, you know. 27 pounds.

Q. 27 pounds in a box? A. Yes.

Q. What are the kinds or items of expense you have to go to to get apricots off of a tree and get them either into the San Francisco or the Los Angeles market? There is picking and packing, isn't that so? Tell the judge what there is. There [15] is picking expense, is there? A. Yes.

The Court: You will have to lead him somewhat. Go step by step.

Mr. Naus: I will lead on this, because there won't be any dispute about it.

Mr. Moore: May I make a suggestion? We took Mr. Pistas' deposition and his son is in court. He is familiar with the figures. He kept the books.

Mr. Naus: If the Court please, I will lead him through the obvious and I will discontinue at any time your Honor directs me.

Q. Mr. Pista, how much a ton in 1943 would it cost to pick the apricots off the trees?

A. It cost me \$25.

Q. \$25 a ton? A. Yes.

Q. For picking? A. Yes.

(Testimony of B. Pista.)

Q. And then after you picked them you had to put them in a box to get them to the market. How much do the boxes cost you?

A. Cost around \$5, you know, sir.

Q. \$5 a box, \$5 a ton, or \$5 what?

A. \$5 a ton.

Q. Then you have to do sorting. You have to buy the boxes. A. Oh, yes, the boxes buy.

Q. That \$5 a ton is for what?

A. For sorting, cleaning them out.

Q. How much a ton does it get you to get the boxes to put them in?

A. It costs me about—the price around 18—oh, let me [16] see, 17 cents a box.

Q. How much?

A. Maybe cost thirteen and a half to fourteen dollars for boxes for a round ton.

Q. Thirteen and a half to fourteen dollars a ton is what the boxes cost, themselves? A. Yes.

Q. And how much a ton does it cost to ship them to the market? A. It costs \$11.

Q. \$11 a ton. In the San Francisco and in the Los Angeles market you have to pay a commission man, don't you, for making the sale? A. Yes.

Q. How much do you pay him? How much does he cost? A. Cost \$15.

Q. Is it \$15 or 15 per cent?

A. 15 per cent, that is right.

Q. 15 per cent he charges commission for selling, is that right? A. Yes.

(Testimony of B. Pista.)

Q. Mr. Pista, when do the trees bud? When do the buds come on the trees?

A. Oh, they start in around 20th of February.

Q. Is that the bud or the blossom?

A. No, just open, you know—some of them open, you know.

The Court: Can you distinguish between bud and blossom?

Mr. Naus: I think there is a distinction, but I had difficulty pursuing it with him, so I will discontinue it. I *definitely* there is a distinction, yes.

Q. When the trees bud or blossom can you, from your experience, looking them over, see whether there is going to be a light [17] crop or a heavy crop, Mr. Pista? A. Yes.

Q. In your opinion——

Mr. Moore: I do not like to object——

Mr. Naus: I have only started to ask the question. You can object when I have asked it.

Mr. Moore: Perhaps I can bring it out on cross-examination, but in your previous question you referred to bud or blossom. I understand they are entirely different phenomena of nature. Budding and blossoming are not the same.

Mr. Naus: His Honor asked me the same question and I told him I thought there was a distinction between them, but I would have difficulty pursuing it with this witness. I will pursue it with other witnesses. That there is a distinction there is no question.

(Testimony of B. Pista.)

Q. If no dust had come over from that Permanente plant in the year 1943, Mr. Pista, what, from your experience and from what you saw about the trees that year, would have been the number of tons you could have harvested from the trees?

Mr. Moore: I am going to object to that, your Honor. That question is highly objectionable, argumentative, and assuming facts that are not in evidence. How he could tell as an expert whether the cement dust caused a short crop or not, I do not know. He is not qualified as an expert in any way, shape, or form.

I might make a short statement, your Honor, in connection [18] with that, so that your Honor can understand our position. The apricot crop in California in 1943 throughout the State was about 20 to 25 per cent of normal caused, we expect to prove, by rains which cause the fungus or rot to kill the apricots. It rained, we are prepared to prove, in Monterey County, and throughout Monterey County there were short crops. To ask this man whether he had a short crop because of that cement dust I take it, your Honor, is going far beyond his capacity. He cannot testify. He is not qualified in any way to prove what was the cause of a short crop in 1943.

Mr. Naus: That is not the question that was put to him.

Mr. Moore: I think it is.

Mr. Naus: No, that is not the question that was put to him.

(Testimony of B. Pista.)

Also, which the proof will show, the orchard still has dust falling on it, and he had probably the largest crop he has ever had in the history of his orchard in 1944. In other words, our position is, due to inclement weather, this man had a short crop in 1943, and wants Permanente to pay for it. Now, to ask him to testify that his short crop was caused by cement dust, I submit, your Honor, he is not qualified or has not been qualified to testify on any such subject as that.

Mr. Naus: That is not the question, if the Court please, and following up that other slur that he wants Permanente to pay for a short crop, that is not true. He wants Permanente to pay only for the damage done. They contend, apparently, [19] that the dust from those stacks benefitted the crop. I do not know the exact percentage of the yield of dust, but one of the counsel for the plaintiff, in a conversation with Mr. Harrington, said that since the 1943 crop they have reduced the volume of dust about 97 per cent. We know they have reduced it. We can't talk in terms of percentage, for we cannot walk in their plant, a war plant, and analyze those things. Counsel is reading something in that question that is not in the question. I ask to have the question read so that he can see the simple form in which it is stated, and ask your Honor for a ruling.

(Question read.)

The Court: I will allow the question. It goes to the weight of the answer.

(Testimony of B. Pista.)

Mr. Naus: Will you answer? Does your Honor want me to restate it, or does your Honor want it repeated?

The Court: Reframe the question.

Mr. Naus: Mr. Pista, in 1943 you testified that you were down at the orchard two or three times a week, that you saw the orchard, you saw the condition; now, if no dust had come on your orchard, what do you estimate is the number of tons of apricots you should have harvested in 1943?

Mr. Moore: So the record will show it, your Honor has already ruled, the question has been re-stated, and I will object to it as incompetent, irrelevant, and immaterial, assuming facts not in evidence. This man is not qualified to tes- [20] tify along that line.

The Court: The objection is overruled.

Mr. Moore: Note an exception.

Mr. Naus: Q. Can you answer?

A. If there was no dust from cement my figure would be from 200 to 250 tons.

Q. From 200 to 250 tons? A. Yes.

Q. In 1943, when the dust was there, were the 27 tons that you harvested and shipped all that you were able to harvest and ship?

A. That is all I had.

Mr. Naus: I might say, if the Court please, that from the books kept directly by young Mr. Pista, who can talk more freely, I will endeavor to show the prices at which it was actually sold rather than pursue it by this witness.

(Testimony of B. Pista.)

Q. By the way, in your operation of that orchard, in your harvesting and shipping, do you try to sell your apricots as dried apricots or as fresh fruit?

A. I sell for best market. If they dry better I sell for dry. If it is better in the fresh market, I ship them in the market.

The Court: There are some other matters I want to take up. It is time for adjournment. We will adjourn until two o'clock.

(A recess was thereupon taken until 2:00 o'clock p. m.) [21]

Afternoon Session,
September 12, 1944, 2:00 P.M.

The Court: Proceed.

B. PISTA,

recalled:

Cross-Examination

Mr. Moore: Q. Mr. Pista, referring to these leaves produced here, can you tell us the date on which you gathered those leaves?

A. No, I can't tell you, but I picked them green.

Q. 1943, was it? A. Yes.

Q. Can you tell us what month in 1943?

A. No, I can't.

Q. Was it in the spring, or the summer, or the fall?

(Testimony of B. Pista.)

A. Well, you know I picked them—they was in very bad shape. That is what I sent to the man in Fresno.

Q. Did you pick them on the same day, or over a period? A. All on the same day.

Q. When did you send them down to Mr. Twining? A. I don't know.

Q. Did you write him a letter?

A. I gave my son—he sent.

Q. Have you any memorandum or note from which we can fix the time that you gathered these leaves? A. I don't know.

Mr. Naus: If it will help any, Doctor Twining tells me, according to my note, he received them on December 10, 1942.

Mr. Moore: If that is correct, these were gathered in 1942 rather than in 1943, is that correct?

Mr. Naus: So I understand. I did not ask Dr. Twining whether they all came at one time or not. That is my recollection. [22] If you wish to suspend, I will put Dr. Twining on just for the two or three questions, as to what date he received them. If I were able to tell you I would.

Mr. Moore: Is he here?

Mr. Naus: He is here.

Mr. Moore: I would like to have the date fixed, if I could.

Mr. Naus: Will you come forward, Dr. Twining? I will just ask him here and later he can be asked under oath with respect to the matter of dates merely. Doctor Twining, will you tell the Judge

(Testimony of B. Pista.)

and Mr. Moore as best you can the dates you received the sample or samples of the leaves and the like from Mr. Pista?

Dr. Twining: On a trip to Salinas, in talking to Mr. Pista, he said he had collected these leaves in the late fall of 1943.

Mr. Naus: 1943?

Dr. Twining: Yes, and they were sent to me along about the 1st of April this year. That is, this particular box.

Mr. Naus: Had you received some earlier?

Dr. Twining: I received some in December the year before.

Mr. Naus: 1942?

Dr. Twining: Yes.

Mr. Naus: Is there anything else?

Mr. Moore: Are they here, too?

Dr. Twining: No. In fact, I did not know they were connected with any case.

Mr. Naus: They were sent to the laboratory in Fresno? [23]

Dr. Twining: Yes.

Mr. Naus: Was that the date, December 10, 1942, that you gave me yesterday, the first lot?

Dr. Twining: The first lot.

Mr. Moore: But these particular leaves were sent to you in April of this year?

Dr. Twining: Yes.

Mr. Naus: I had confused what he got in December, 1942 with this cigar box.

(Testimony of B. Pista.)

The Court: Does that clear it up?

Mr. Moore: Yes.

Mr. Naus: Dr. Twining later took personally some samples out of the orchard, himself.

Mr. Moore: Q. Mr. Pista, after hearing Mr. Twining, does that refresh your memory? Did you gather these leaves in the fall of 1943?

A. Yes, the fall of 1943, you know.

Q. That was after the harvest? A. Yes.

Q. After the harvest of 1943?

A. When I finished fruit, yes.

Q. Let me ask you, what trees did those particular leaves come from?

A. They came all through; some in the field, around the house, you know.

Q. Did you mark any particular leaf as to what particular portion of the orchard it came from?

A. No, I just picked these white leaves.

Q. You went out, looked around, and picked out leaves that had [24] white on them, is that right?

A. Yes.

Q. Let me ask you, are these all leaves from apricot trees?

A. Some apricot trees, some fig, some apples, you know, just the same. Every tree is the same as apricots.

Q. Aren't these lying on top fig leaves?

A. This is apricots (indicating), this is figs, see? This one is figs.

Q. And the fig trees are by the house? How many fig trees are there?

(Testimony of B. Pista.)

A. Just a couple of trees.

Q. Mr. Pista, you said on your direct examination that your crop had varied in the past from 119 tons to 450 tons. Can you tell us what years those variations took place in? Take a period for five years back of 1943. Can you tell us what your crops were?

A. Well, I don't know. My son keep the books. I don't know. I come in court with this, you know. He's got it in the books, my son.

Q. When you testified here, did you testify from books, or did you know what your crop was in previous years?

A. He told me we got a smaller crop in 1942 and the biggest crop, 450.

Q. Isn't it a fact that in 1937 you had a crop of about 400 tons? Is'nt that correct?

A. Yes, about 400, maybe more.

The Court: What year was that?

Mr. Moore: 1937.

Q. 1938 you had 479 tons, didn't you?

A. Well, my son gave me—you got it there.

Q. Do you recollect? Are those figures correct?

A. Yes, by the [25] books.

Q. 1939 you had 138 tons, is that correct?

A. Yes.

Q. 1940 you had 118, or practically 119 tons?

A. Yes.

Q. 1941 you had 248 tons, is that correct?

A. Yes.

(Testimony of B. Pista.)

Q. 1942 you had 214 tons? A. Yes.

Q. Now, can you tell us what the reason was that in 1940 you only had 119 tons where two years before you had practically 480 tons? What caused that short crop that year?

A. Well, you know sometime trees in one year aren't good, you know. That is the way we find it.

Q. You remember you had a short crop in 1940, don't you?

A. Sure, my son told me from book.

Q. I know but don't you remember the orchard?

A. Well, I remember what they told me.

Q. Don't you remember of your own recollection that in 1940 you had a short crop there? Don't you remember that?

A. I remember—you know, you remember when you are in Salinas my son show you a book and show me at the same time.

Mr. Moore: I do not like to repeat, your Honor, but I would like to ask this:

Q. Don't you know of your own knowledge that you had a short crop in 1940, aside from what your son told you?

A. Well, best of my—maybe was rain or something.

Q. What was that answer?

A. Maybe it was rain or something. Can't get every year a big crop. [26]

Q. Going back to 1940, do you remember whether there was a rain that year?

(Testimony of B. Pista.)

A. I don't remember.

Q. You don't remember? A. No.

Q. Coming to 1943, was there a rain that year?

A. It was some rain, yes.

Q. When did that rain take place with respect to the blossoming of the fruit?

A. Well, had rain but not so heavy, you know.

Q. Did it rain while the fruit was in blossom?

A. Yes, some.

Q. When did the fruit in 1943 start to blossom? What date?

A. Well, I guess around the 1st of February.

Q. The first of February?

A. Maybe, you know. I don't know.

Q. You spray down there, don't you?

A. Yes.

Q. In 1943 did you spray your orchard?

A. Yes.

Q. In the spring? A. Yes.

Q. Was that at the time it was in blossom, or before, or after it was in blossom?

A. Well, just started to go pink, you know—one blossom here, one blossom there, like that.

Q. Just when the blossoming started you sprayed?

A. Yes.

Q. Did you keep a memorandum of the date on which you sprayed? Have you any memorandum to show what date you sprayed that orchard?

A. I don't know. Maybe it is in the book.

(Testimony of B. Pista.)

Mr. Moore: Is that information available, Mr. Naus?

Mr. Naus: Mr. Moore, I told you from the very beginning our books were available to you. You have mentioned them once. I told you you could have an accountant in. You know that Mr. [27] Pista is here and, so far as I know, he has brought his books with him. They are available.

Mr. Moore: What I am trying to find out, if I can, is the date the spraying took place. Is there a record of the date that you sprayed that orchard?

Mr. Naus: I will call young Mr. Pista and you can get the date directly, if you want.

Mr. Moore: I would like to get the date, yes.

Mr. Naus: Mr. Pista, if you can give any dates to Mr. Moore that he desires, give them.

Mr. Pista: I can give the approximate date.

Mr. Moore: I can't get it from this witness.

Mr. Naus: I do not think you could get it from your own memory if you were down there unless you had a record of it.

Mr. Pista: Apparently the bookkeepers at that time did not itemize it.

Mr. Moore: May I make a request, your Honor? There has been a deposition returned here. Might I get an order of court opening that deposition?

The Court: Yes.

Mr. Moore: I will pass that subject. I would like to get it in later, your Honor, the exact date of this spraying.

(Testimony of B. Pista.)

Mr. Naus: I might say, if the Court please, in the course of a deposition or depositions taken at Salinas last May, at which Mr. Moore and I and Mr. Harrington were present, he re- [28] quested that that information be compiled if possible. I have not seen the original of the deposition, but I understand young Mr. Pista attempted to compile the spraying dates for the years 1941, 1942, 1943, and 1944, and a memorandum was understood to have been attached to the deposition giving that as best it could be compiled from the books. That is all I know about it.

Mr. Moore: That is correct. The depositions were taken in May but were not returned until last Saturday with this data.

Mr. Naus: So far as Mr. Pista telling from memory, we know that is impossible. So far as the records are available, they are open to counsel and always have been.

Mr. Moore: I consider the date of the spraying and the date of the blossoming highly important, and that is the reason I want the witness to fix it if possible.

Q. Mr. Pista, if I understand you correctly, you sprayed in 1943 just as the blossoming started, is that correct? A. Yes.

Q. How long did that blossoming continue, about two weeks? A. Oh, two or three weeks.

Q. Do you remember whether in 1943 it rained during that period of time?

(Testimony of B. Pista.)

A. Not much worse rain.

Q. Well, did it rain?

A. It rained one day and stopped four or five.

Q. Don't you know as a fact throughout the State of California there was a very short crop in 1943?

Mr. Naus: One moment, if the Court please. Objected to [29] as immaterial as to what happened in the whole of California. We are only interested in a small apricot locality.

Mr. Moore: I think the climatic conditions were the same all over the State.

Mr. Naus: If the Court please, does Mr. Moore mean to suggest that the rain conditions on the Mojave Desert were the same as in Trinity County? We are concerned with the particular locality in Monterey County.

Mr. Moore: I am asking him if there was not a short crop in the apricot crop—nothing else—in the State of California during the year 1943.

The Court: He may answer if he knows.

Mr. Moore: Q. Do you know?

A. It was short but my ranch never failed, only in that year. It was all covered with white dust when there was a big blossom.

Q. Isn't it a fact, and you know as a man engaged in that business, that in 1943 there was a short crop of apricots throughout the State?

A. I hear of it, yes.

Q. Somewhere in the neighborhood of about 20

(Testimony of B. Pista.)

percent of normal, is that correct? Is that what you understand?

A. I don't know, you know. I don't know, really, you know.

Q. You know the Wilmouth orchard that is in that neighborhood there near Salinas?

A. I never asked them.

Q. Don't you know that he had a very, very short crop on that ranch? A. I don't know.

Q. You know the Anderson ranch?

A. I know Anderson.

Q. Don't you know they had a crop that was about 10 percent of normal in 1943?

A. I never asked them.

Q. Do you know the Hill ranch, orchard?

A. Yes.

Q. Do you know that that had a crop of about 10 percent of normal?

A. I don't know. I didn't ask them.

Q. You know the California orchard; they have two orchards in King City?

A. I hear of them. I don't know.

Q. Do you know whether or not they had a short crop that year? A. I don't know.

Q. Do you know Mr. Eiper, who is the local secretary down there, and who has a ranch of about 20 acres in there?

Mr. Moore: No, up the other way, I believe.

Mr. Naus: Where?

(Testimony of B. Pista.)

Mr. Moore: Up near Rosamond.

Q. Do you know he had about three tons of cots in 1943?

A. I never hear it from that date.

Q. Do you know of anybody in your neighborhood that had a 100 percent normal crop in 1943?

The Court: Q. Do you understand that question? A. A crop in 1943?

Mr. Moore: Q. Yes.

A. Oh, yes, I hear there is around 25 percent. I hear that the people talk.

Q. Do you know anybody in that neighborhood who had a normal crop of the same size that they had the year before? Do you [31] know any apricot grower in that neighborhood who had what would be termed a full crop? Do you know of a solitary one?

The Court: Q. Do you understand that?

A. What you say?

The Court: He has some difficulty understanding.

Mr. Moore: Q. Do you know of a solitary——

Mr. Naus: I doubt if he knows what “solitary” means.

Mr. Moore: Q. Do you know anybody in that neighborhood who had a full crop in 1943?

A. No, I don't think so. Nobody, no.

Q. They all, so far as you know, had short crops, is that correct?

A. Well, some ranches run—next to mine, he had, I guess, 60 percent.

(Testimony of B. Pista.)

Q. But they all had short crops that year, didn't they? A. Well, I heard, yes.

Q. Some of those orchards that had short crops weren't anywhere near this dust, is that correct?

A. What?

Q. I say some of these orchards that had short crops were not near this plant at all, or had no dust on them, is that correct? A. Yes.

Q. You had a crop this year; what kind of a crop did you have this year?

A. I had a fair crop.

Q. How many tons? A. 450 tons.

Q. 450 tons this year? A. Yes.

Q. That is one of the biggest crops you had ever taken off of that ranch, isn't that so?

A. Yes. I figure this year the biggest. [32]

Q. As a matter of fact, the yield there was so great that you had to thin the trees out, didn't you?

A. Yes.

Q. You had to go out and take the young apricots off of them and thin them out, they had such a heavy bearing, isn't that correct?

A. Yes.

Q. And you still got 450 tons this year?

A. Yes.

Q. When did you acquire this ranch, Mr. Pista?

The Court: Q. When did you buy this ranch?

A. 1910.

Mr. Moore: Q. And what was on it at that time?

(Testimony of B. Pista.)

A. It was some old trees, you know, not much. I planted more.

Q. How many old trees were there? How many acres of the total amount?

A. About around six acres—five or six acres.

Q. Are those trees still there?

A. Yes, some.

Q. Some have died, have they? A. Yes.

Q. Have you planted new trees?

A. Yes, the old trees, Delicious apples.

Q. Apples? A. Yes.

Q. You planted the balance of the orchard, you say, in 1911? A. In 1911.

Q. And 1916? A. Yes.

Q. Have you had any trees die there in those years?

Mr. Naus: What years?

Mr. Moore: Q. From 1911 to date have you had trees die?

A. What you mean? Old trees?

Q. Any trees. A. Yes, she dies. [33]

Q. What do they die from, do you know?

A. They die—pretty old trees.

Q. Don't a good many of them die from oak root fungus?

A. Yes, some of them maybe die from dust.

Q. In 1943 where did you sell your crop? To whom did you sell it?

A. We sent it on commission.

Mr. Moore: I probably can get this better from young Mr. Pista, don't you think so?

(Testimony of B. Pista.)

Mr. Naus: Mr. Moore, it would be impossible to get it from this gentleman on the stand with any satisfaction. That has previously been compiled for you. It is in the nature of a report. The books are available, and young Mr. Pista is the best one to talk about it. The copy we have given you gives the names, the quantity, the amounts, and all that, and you can use it and refer to it directly if you wish, or you can call young Mr. Pista up now and ask him for any books you want to see, or ask him any questions you want. You will save time in that way, rather than trying to have Mr. Pista give you that detail.

Mr. Moore: Q. Mr. Pista, is the dust still settling out there on your orchard?

A. Yes. You got it right here.

Q. What do you mean "right here"?

A. I bring some leaves.

Mr. Naus: I think that sample is on top of the coat rack, there.

The Witness: Could I please go get it? [34]

Mr. Moore: Are these what you refer to?

Mr. Naus: I think so.

Mr. Moore: Q. Are these what you refer to?

A. Let me show you. This was the last year (indicating)—it was 1943, through this year. You see 1944 hasn't got it so much. You see it is here.

Q. This is 1944?

A. 1943—this is 1944. Not much like 1943—three times much worse.

(Testimony of B. Pista.)

Q. What are those?

A. This is apricots, figs—all kinds.

Q. And these that are in this bag are all 1944?

A. Sunday morning I picked it.

Q. This last Sunday?

A. Yes, last Sunday.

Q. Now, you testified on direct examination that the dust never stopped from the time they started the plant, is that correct?

A. No, a long time ago, but 1944—it wasn't like 1944.

Q. You say the dust caused you to have a short crop in 1943, is that your statement?

A. It was my statement that it all killed my ranch, 1943.

Q. On what basis do you make that statement?

The Court: The basis?

Mr. Moore: Q. Why do you say that?

The Court: Tell him.

A. I say 1943 was the cloud of dust, white stuff, all white.

Mr. Moore: Q. Was that true in 1944?

A. 1944 was never like 1943. [35]

Q. In other words, the dust in 1944 did not affect your crop at all?

A. He don't affect—he buy my apricots, he don't kick, they no pay attention to that.

The Court: Make your question as simple as you can.

Mr. Moore: Q. Did the dust hurt your crop in 1944?

A. No.

(Testimony of B. Pista.)

Q. You say it did in 1943? A. Yes.

Q. Did the rain have anything to do with your crop in 1943?

Mr. Naus: What do you mean, does the rain have something to do with the crop?

Mr. Moore: The yield, the short crop.

The Witness: I don't know the yield. It might.

Mr. Moore: Q. You say the rain might have had something to do with the short crop?

A. I can't tell you that.

Q. You can't tell that?

A. You know, but I know my ranch give every year since fair crop, average.

Q. You did not have a very good crop in 1940, did you? You only had 118 tons.

A. I don't know.

Q. Do you know what caused that on this crop?

A. I can't tell you, you know.

Q. How long have you been in the orchard business. Mr. Pista? A. 44 years.

Q. How long, 45? Do you mean to say that you can't tell us why you had a short crop in 1940?

A. I can't tell you truthfully. This year—excuse me if I talk too much—I got my ranch at Watsonville. I got a half crop of apples. [36]

Q. Did rain have anything to do with your short crop in 1943?

A. I don't know. It is in the book, you know. I don't write, you know.

Q. Were you down there at the ranch in 1943 when they were blossoming?

(Testimony of B. Pista.)

A. Yes, when I spray, it was not raining at that time. You can't spray if it is raining.

Q. How long did you stay down there when you sprayed? A. Every day.

Q. While the blossoms were out did it rain?

A. Well, I forget it, whether it rained at that time or not, you know.

Mr. Moore: That is all.

Mr. Naus: No further questions. Call Mr. Lewis.

WILLIAM LEWIS,

called as a witness by plaintiff; sworn.

The Clerk: Q. Your name?

A. William Lewis.

Q. And what is your address?

A. 1370, Salinas, California.

Q. Your address is Salinas? A. Yes.

Direct Examination

Mr. Naus: Q. You live there in Salinas?

A. Yes.

Q. What occupation do you follow?

A. I am Deputy Agriculture Commissioner.

Q. For Monterey County?

A. Monterey County.

Q. For how long have you been in that office?

A. I came to Monterey County in 1932, as an inspector; in 1933 I was gone for [37] about six months with the Bureau of Biological Survey. I

(Testimony of William Lewis.)

came back in 1935 and I was in Santa Cruz County for two months and a half. When I came back to Monterey County I came back as Supervising Inspector, and around 1939 I was appointed Deputy Commissioner, after passing the examinations.

Q. In the time that you spent from 1932 on in the places and in the offices that you have mentioned, state in a general way to his Honor specifically what it is that you have done with respect to orchards and the like, the nature of your work specifically?

A. My work specifically is enforcing officer of the Agricultural Code on plant life. The work is composed of rodent control, predatory animal control, orchard and field inspection, apiary inspection, fruit and vegetable standardization, plant quarantine, and seed inspection.

Q. In the course of that work from 1932 to date have you or not personally made inspections in and about orchards in Monterey County?

A. I have.

Q. And you have inspected orchards, fruit orchards I have in mind, with what purpose or what object?

A. The object was pest control, advice on the control of pests, and the Agriculture Commissioner is required to file an annual report with the Director of Agriculture of the State of California, regarding those diseases and regarding the problems in his county. He is also required to file, when re-

(Testimony of William Lewis.)

quested, an estimate of crops with the State and Federal statisticians regarding the [38] condition of the crops in his county.

Q. The State and Federal crop estimates, then, as I take it, were based, so far as Monterey County was concerned, on the field data that you compiled and reported, is that correct?

A. That is correct.

Q. I will show you Plaintiff's Exhibit No. 2, Mr. Lewis. It is an air view down around the Permanente Plant. It simply shows as much as that air view took. It does not show the whole region. You can recognize and identify that area, I take it?

The Court: Q. Did you see this picture before?

A. I am a little puzzled on this.

Mr. Naus: Do you wish to step up a moment, Mr. Moore?

The Witness: Wait a minute. I was looking at it wrong. Here we are. Now we have it.

Mr. Naus: Q. Here is the road coming along. Here is where the plant is with these stacks. Here is a quarry, here is a quarry, here is the Anderson orchard over here, and there is a piece of the Pista orchard, and then there are other orchards over here. With that in mind you identify the locality, do you, that air view of it?

A. Yes, I have got it now.

Q. In the year 1942, and in the year 1943, did you personally inspect the orchards that appear on that air photograph? A. I did.

(Testimony of William Lewis.)

Q. In the years 1942 and 1943 did you personally inspect other orchards in that neighborhood or vicinity, but outside the area [39] of the photograph?

A. Practically all the orchards in Monterey County.

Q. Practically all of the orchards in Monterey County? That would necessarily include, would it not, all apricot orchards?

A. Apricot orchards, apples, and cherries.

Q. Did you inspect the orchards on these occasions in question for the presence of plant disease and the like? A. Yes, I did.

Q. Did you or not in those inspections of orchards in the years 1942 and 1943 inspect them with respect to the presence of bugs and later the presence of fruit that has been set and the crop that ought to be produced?

A. In order to make my estimates for the State and Federal I would have——

Q. You did inspect for those purposes and at those times, didn't you? A. Yes.

Q. Take the Pista orchard, the one in this lawsuit here. State what you found on inspection in the fall of 1942, for example, when you inspected that orchard?

Mr. Moore: Pardon me, Mr. Naus, can we get the date located more definitely?

Mr. Naus: I will cover that, Mr. Moore. In this lawsuit, as in any other, we can't get every fact in one question. I will touch on that.

(Testimony of William Lewis.)

Mr. Moore: I think that is preliminary, your Honor.

Mr. Naus: Nothing will be concealed.

Mr. Moore: I did not say anything was being concealed, but [40] I think we are entitled to it.

Mr. Naus: Do you want that all in one question and answer? I assure you it will be covered. Did you want it all in one question and answer, or shall I proceed, your Honor?

The Court: Proceed.

Mr. Naus: May I have the question read?

(Question read.)

A. In the fall of 1942?

Mr. Naus: Yes.

A. That was the latter part of September.

Q. Yes. A. I can't give the date exact.

Q. That is as near as you can come to it. In the latter part of September, 1942? A. Yes.

Q. Proceed then and state what your inspection disclosed with respect to disease, with respect to bugs, or anything else that you might have observed.

A. I was checking for scale, spider, shot hole fungus and brown rot, also a condition of fruit buds.

Q. That is what you were checking to find out?

A. Yes.

Q. Having made that check what did you observe or find?

(Testimony of William Lewis.)

A. It would be unnecessary for Mr. Pista to use an oil spray for any scales. In the center of the orchard, part of the fruit spores was injured from the brown rot of the apricot fruit. The remainder of the fruit spores carried a fairly good set of fruit buds, and the leaf buds showed plenty of strength, in other words healthy. [41]

Q. Will you describe to his Honor what is meant by your expression, a fairly good set of fruit buds? What does that mean?

A. That on each cluster or spore there would be sufficient buds if they had kept on developing to give good bloom the next spring.

Q. By the way—I will continue with this orchard inspection in a moment—but will you tell me at this point whether at any time you ever observed this white dust that falls on the orchard from the Permanente plant, whether you observed it in the orchard?

A. Yes, I did.

Q. Beginning when, about? I will reframe that question. On the occasion of this visit in September, 1942, did you observe some?

A. I am not sure of the date, whether it was that date or a date before that, but I picked it up on the Anderson orchard first and then followed it over to the Permanente. I didn't know what it was at first.

Q. When you speak of the Anderson area, you are speaking of the place that appears on the photo-

(Testimony of William Lewis.)

graph, Plaintiff's Exhibit 2, under the legend or name "Anderson orchard," is that correct?

A. Yes, that is the Anderson orchard.

Q. That is slightly nearer the Permanente plant than the Pista orchard, isn't it? A. It is.

Q. But in a slightly different direction, as you recall? A. Yes, they are slightly different.

Q. Taking the Anderson orchard and the Pista orchard, and from first observations merely, had you noticed whether or not there [42] was any difference between those two orchards with respect to the volume or amount of this light Permanente dust that settled on them?

A. Apparently more dust settles in around the Pista house than settles on the Anderson, and that area in there, taking an angle across through the orchard, and the rest of it, the further area, comes pretty near the same.

Q. After your observation of these trees in the fall or September of 1942, did you subsequently, in the spring of 1943, inspect and observe the Pista orchard along with many other orchards in Monterey County A. I did.

Q. About when?

A. In the latter part of February.

Q. February, 1943? A. 1943.

Q. Had the stage of blossoming been reached yet at that time?

A. It hadn't been reached to the point of spraying, that is, it hadn't quite got to the pink bud stage.

(Testimony of William Lewis.)

Q. It hadn't quite got to the pink bud stage?

A. Yes.

Q. And at that time, in February, 1943, was the white Permanente dust settling on that orchard?

A. Yes, there was white dust there.

Q. Was it easily visible to the naked eye?

A. It was on the trees, on the buildings, and on the ground.

Q. You did not need a microscope to see it, did you?

A. No.

Q. Could you state to the judge how easily or how readily it could be seen or the extent of it, as one would look at it on the ground. Describe it to him.

A. When I first saw the dust——

Mr. Moore: Pardon me just a moment. Is he referring now to this visit in February?

Mr. Naus: In February, 1943, yes.

Mr. Moore: I just wanted to be sure what he was talking about.

The Court: He does not know whether it was the visit before that or the visit after that he first noticed it.

Mr. Naus: His answer was he fixed it in the fall of 1942. I then asked him whether he observed it in 1943. He now fixes it: he did see it then, so I am asking him to describe to his Honor what he saw then, as well as he can describe it.

The Witness: There was a white coating on the ground, a light white coating on the ground, and there was also a white coating on the trees.

(Testimony of William Lewis.)

Mr. Naus: Q. Did you on the occasion in February, 1943, that you speak of—I understood you described it they were not quite to—what was it, the pink bud stage? A. Yes.

Q. Did you make any observation, inspection or estimate with respect to the probable extent of blossoms, fruit and the like to expect from those trees? A. Do you mean blossom or fruit?

Q. Either, or both.

A. I will have to use the term blossom.

Q. All right, then, use the term blossom.

A. It looked like they would have a fair blossom—in other words, the trees when they would bloom out would be white.

Q. When you use the phrase “fair blossom,” will you describe to his Honor what meaning or significance that term carries with [44] respect to what might be called the expectancy of fruit?

A. Using the word “expectancy,” that there would be enough bloom on there that if a certain percentage of them set, that they would have sufficient apricots to give them a crop and give them a good crop.

Q. A good crop? A. Yes.

Q. When you speak of setting, just what does that mean with respect to an apricot orchard, or the fruit?

A. That after the bud has bloomed and pollinizes itself, it keeps on growing and remains on the tree. If it does not set it will shrivel up and drop off.

(Testimony of William Lewis.)

Q. You mean it will shrivel up and drop off if it does not set?

A. If it does not set, and that will happen before the jacket breaks.

Q. The fruit comes from the buds that do set, is that it?

A. From the buds that do set, yes,—from the bloom that sets.

Q. From the bloom. Now, on this occasion in February, 1943, all you could observe at that time was the probable extent of bloom to expect on that day?

A. Yes, from the buds at that time.

Q. I understood you to say that there would be an expectancy of a good or a fair bloom that would cover the tree with white blossoms, is that it?

A. Yes.

Q. When next did you inspect or observe the Pista orchard after that occasion in February, 1943?

A. The first week in [45] March.

Q. The first week in March of 1943?

A. 1943. Mr. Anderson called me to his orchard and I went over and looked at the Pista.

Q. What, if anything, did you observe in the Pista orchard at that time with respect to blossoming or fruit setting, or expectancy or the like?

A. The Anderson orchard was ready for a spray. The Pista orchard looked like it would be a little bit light in blooming. It would be a few days later. Both of them could be sprayed at that time. It was in condition in that it would be justified in spraying them at that time.

(Testimony of William Lewis.)

Q. What is the function or purpose of spraying at that time?

A. They use a Bordeaux spray of copper sulphate and lime to control the Manila blossom rot, also known as the brown rot.

Q. On this occasion in March, 1943, what observation did you make with respect to buds or blossoms or the like that would assist in any way toward a crop estimate?

A. I do not make my estimates on bloom. I wait until they set, and that is around the first of April. The only thing would be an idea whether there was a chance of a set.

Q. On this occasion in March, 1943, what did you observe with respect to the chances of the set?

A. There was a chance of a set from the bloom.

Q. A chance of what per cent or degree or volume do you mean?

A. With favorable conditions and everything set you would have [46] nearly a normal crop.

Q. When you say a normal crop, and having in mind the Pista orchard there of apparently about 44 acres of apricot trees, what would you call a normal crop? Regardless of the year, what would you call a normal crop in terms of tons of apricots?

A. An above-normal crop would be 100 per cent. A normal crop would be around 80 per cent.

Q. I do not know in percentage what that means in tons.

A. You would figure a normal crop in there for

(Testimony of William Lewis.)

that year at the rate of 7 tons to the acre on 40 acres——

Q. 44 acres.

A. Yes, but I am figuring on 40, because I am making allowance for smaller trees and weak trees. That would be around 280 tons.

Q. On this occasion in March, 1943, from the observation you could make of the buds or whatever there was to observe, did it have the appearance of a chance, a good chance or otherwise, of 280 tons of apricots? A. He had a chance.

Q. When did you next observe the Pista orchard? Before I go on from that, in March, 1943, did you observe whether or not this white Perma-nente dust was still settling on the orchard?

Mr. Moore: You mean his visit in the first of the month?

Mr. Naus: No, I am speaking of this visit he has identified as sometime in the first week of March, 1943.

Mr. Moore: I just wanted to be sure what you were talking about.

A. Yes, I noticed the dust then on the ground and on [47] the tree buds.

Q. When was the next occasion you inspected or visited the Pista orchard after this occasion on the first week in March?

A. I was in this orchard nearly every week during March and up to the first of April, then again around the 20th of April.

(Testimony of William Lewis.)

Q. Were you there through blossom time?

A. I was.

Q. What would you fix, as best you can, as the approximate period or range of time of the blossoming in that Pista orchard in 1943?

A. In 1943 the blossoming extended over a long period, which ran about eighteen days.

Q. Was it a uniform period or was there an early blossom or late blossom?

A. There was practically three different blooms on all orchards in the district. It seemed to be a continuous bloom.

Q. Those three different blooms extended then, you say, over this period of eighteen days?

A. About eighteen days, yes.

Q. What inspection or observation or conclusion or estimate did you make or form during this period of these various weeks in March with respect to the expectancy or probability of crop or setting or the like?

A. The bloom, itself, was sufficient to give a crop. The first bloom came on, and as it continued through it seemed to develop into a second bloom. I noticed the cots, instead of growing from the bloom, they formed a cot with a jacket around it standing there, and with touch they would drop off. The same happened with the second bloom, and with [48] the last or the end of this practically continuous bloom, which was really in three heights during the blooming, the biggest portion of them

(Testimony of William Lewis.)

dropped off, although more set on that last bloom than did on any of the other two heights of the blooming period.

Q. Do you mean that the bloom was not developing into sets or setting?

A. It wasn't setting or developing into fertilized or pollinized cots.

Q. From your observation could you form an estimate or opinion or determine as to what, if anything, was preventing those apricot blossoms from setting into apricots—from failure of fertilization or pollinization?

A. That area had me puzzled.

Q. Pardon me? A. It has had me puzzled.

Q. I didn't get the answer.

Mr. Naus: "That area has had me puzzled."

The Witness: The whole county had an acreage of 20 per cent, most of it from 10 to 15 per cent, and the area in there brought the estimate up sufficient to make my estimate around 20 per cent. I made it 15 to 20 per cent for the county when I reported before the 1st of May, and the orchards down there, with the exception of the Anderson, and the Pista, and the Hill orchard, had a crop of cots, while not a normal crop, with the exception of the Bardin orchard, which came up nearly to normal—well, they came within a 60 per cent crop—why, the Anderson and Pista did not set, whether it was weather conditions or whether [49] it was dust.

(Testimony of William Lewis.)

Q. Have you ever made any studies with respect to the effect of *of* this settling of dust on fruit trees and blossoming?

A. The only true reference that I have read on that there, on fruit trees, was by Dr. Anderson, a synopsis in his "Plant Diseases," by Hill, and it speaks of the effect of magnesium and other dusts on the pollinization of apricots.

Q. What effect does it have?

Mr. Moore: Just a minute. Is he referring——

Mr. Naus: I do not know what he is doing.

Mr. Moore: I would like to voice an objection. I do not understand, your Honor. Is he testifying from his own knowledge or is he just testifying from what somebody else wrote or told him?

Mr. Naus: My question was, Mr. Moore, whether he personally ever made any study of it, and he started to give me in his answer something he read somewhere. I would be content if he would tell me if he has ever personally studied it. I do not think he has.

The Witness: Not on that particular dust, nor not on apricots. I have on other field products and other dusts.

The Court: Q. On road dusts, red spider?

A. Yes, your Honor.

Q. What else?

A. Road dust on your beans, on your almond trees, and on your fruit trees, on your prune trees—the red [50] spider, the weakening of the tree, the spider attacking that.

(Testimony of William Lewis.)

Mr. Naus: Q. Speaking of dust generally, without regard to the type of dust, or even using road dust, as his Honor has used, what effect have your personal studies shown it has on blossoms with respect to fruit setting and the like?

A. Not so much on dusts as I have on sprays.

Q. Are you prepared to say one way or the other, from your own studies or observations, whether the Permanente dust did or did not interfere with the setting of the fruit in the Pista orchard?

A. Something interfered with the setting of the fruit in the Pista orchard and in the Anderson orchard. The bloom in the Anderson orchard and in the Bardin orchard was practically the same, and the Bardin orchard set and the Anderson orchard did not set.

Q. Were they in the same area of rainfall?

A. The same area of rainfall, yes.

Q. In other words, the Bardin orchard had the same rainfall as the Pista or Anderson, and vice versa?

A. They did.

Q. So you can't explain it on that ground, can you?

A. No, I can't explain it on that ground.

Q. By the way, can you tell us anything with respect to the rainfall during the blossom period or the three bloom periods that you have spoken of in the spring of 1943 in these orchards?

A. We had a rainfall or foggy weather through the whole period. In fact, on the first bloom, as it

(Testimony of William Lewis.)

started, the rain stopped. [51] Some of the spray rigs for a few days were held up until they were late getting on their sprays in some of the orchards.

Q. Take the Bardin orchard. The Bardin orchard was not affected by this Permanente dust, was it? A. No.

Mr. Moore: What do you mean, affected? Do you mean was there dust on it or wasn't there, Mr. Naus?

Mr. Naus: Are you framing an objection?

Mr. Moore: I am framing an objection on the ground your question assumes facts not in evidence and it is indefinite.

Mr. Naus: I will reframe the question, now that I know the point of the objection. I was trying to avoid conversation.

Q. Mr. Lewis, in your observations of the Bardin orchard, did you or not ever observe whether any of the Permanente dust fell or set in the Bardin orchard? A. No, I never noticed it.

Q. You never noticed any dust there. So far as you know none of the Permanente dust fell in the Bardin orchard, did it? A. No.

Q. Do you know of any other difference, if there is any, between the Bardin and the Pista orchards, with respect to rainfall or other conditions other than the difference with respect to the Permanente dust?

A. There was a difference in the set of the bloom.

Q. Pardon me?

(Testimony of William Lewis.)

A. There was a difference in the bloom. [52]

Q. Yes, but I mean other than the physical differences and the like as to the bloom, did you ever notice any other difference between them other than this matter, if it did affect them, of the Permanente dust?

A. No.

Q. What set of apricots did the Pista orchard have as compared to whatever set it was that the Bardin orchard had?

A. Well, the Bardin orchard had about a 60 percent—

Q. 60 percent of what?

A. Of what you would call a full crop.

Q. And the Pista orchard had what percent?

A. Between a 5 and 10 percent.

Q. If we take that 60 percent, whatever that phrase may mean with respect to an apricot crop, if there had been the 60 percent set in the Pista orchard as in the Bardin orchard, what should that have produced in tons in the Pista orchard in 1943?

A. I gave you that before.

Q. Pardon me?

A. —I gave you that before.

Q. I may have overlooked it. Will you give it to me now?

A. About 280 tons.

Q. You said a normal crop on that ranch would be 280 tons, is that correct?

A. On the Pista?

The Court: Let us approach it another way.

Q. You said a normal crop would be 280 tons?

A. For last year.

Q. For last year?

A. Yes, your Honor.

(Testimony of William Lewis.)

Q. 1943? A. Yes. [53]

The Court: That is what I thought.

Mr. Naus: Q. That is a normal crop under all the conditions that you observed?

A. Under the conditions, yes.

Q. Take the Anderson orchard, which, as I understand you, had the Permanente dust settling or falling upon it somewhat like the Pista orchard. What kind of a set did it have?

A. It had around an 8 or 10 percent set.

Q. Was that about the same, or better or worse than the 5 to 10 percent set for the Pista?

A. It would be a little bit better.

Q. Do you know of any reason why even if there should have been a slightly better set than the Pista, other than the dust, if that had caused it?

A. Well, it had a heavier bloom.

Q. There is a Bob Sterling orchard and a Lester Sterling orchard in that general area, is there not?

A. Yes.

Q. Are they in the same rainfall area?

A. In the same rainfall area, yes.

Q. Did either the Bob Sterling or the Lester Sterling orchard have any of this Permanente dust fall on it?

A. At the Lester Sterling I never noticed any, but I have seen some at the Bob Sterling, at the house.

Q. Now, the Lester Sterling orchard that you never saw any Permanente dust fall on, what did it do with respect to setting fruit?

(Testimony of William Lewis.)

A. It set what we could call a 40 percent crop.

Q. How did the blooms in the Lester Sterling orchard compare with the blooms in the Pista orchard?

A. Lester Sterling had a heavy [54] bloom on his orchard.

Q. Can you in a general or in an approximate way tell his Honor generally about how many apricot orchards there are within a radius of, let us say, ten miles from the Permanente plant in any direction?

A. Ten miles in any direction?

The Court: Approximately.

Mr. Naus: Q. Yes, just approximately. I want his Honor to know whether there are some other orchards we ought to deal with.

A. That runs into the Prunedale area, in the Prunedale district, where you have one- or two-acre abandoned family orchards all the way through. I can name the orchards on the other side.

Q. If they are simply one or two acres of abandoned family orchards I do not think we should pursue them. You mentioned a district. What district would you call it that the Anderson, the Pista, the Bardin and Sterling are in?

A. The Alisal and Natividad.

The Court: That is the name of the district?

The Witness: The two join. The Pista is right in the Natividad, but I do not know where the line comes in between the two of them. The Alisal comes right in. They are school districts. That is what it is.

(Testimony of William Lewis.)

Mr. Naus: Q. Does the Natividad and Alisal district comprise in area or not that, speaking generally, same physical, rainfall conditions and the like, soil and the like, with [55] respect to apricot growing?

A. There is a little difference in the soil in all orchards. There are no two orchards that have got the same soil.

Q. Then I will eliminate the soil comparison. Are they all the same in that district with respect to rainfall and other general conditions?

A. The Natividad area might be a little bit warmer than the Alisal.

Q. Is there any difference between them that you can think of offhand?

A. There is no other difference.

Q. In the Alisal and Natividad districts what other apricot orchards are there, disregarding those of an acre or two of family orchards—other than those that we have mentioned, if any?

A. There is that Kerns orchard on the Natividad road that belongs to a lady by the name of Mrs. Kerns. It is marked right here.

Q. Which one is that?

A. Right here (indicating), and there is another little orchard that sits back on the side of the hill that they don't take much care of, which we have practically eliminated from our reports.

Q. Aside from the Bardin orchard and the Bob Sterling and the Lester Sterling orchards, is there any other apricot orchard in these Alisal and Nativi-

(Testimony of William Lewis.)

dad districts that the Pista should be compared with for purposes of his Honor that you know of?

A. Not that I know of.

Mr. Naus: You may cross-examine.

The Court: We will take a recess for a few minutes.

(Recess.) [56]

Mr. Naus: If the Court please, I would like permission to reopen for a question or two of Mr. Lewis.

The Court: All right.

Mr. Naus: Q. Mr. Lewis, it appears in this case so far that in the season of 1940 the Pista orchard produced only 119 tons of apricots. You are familiar with that low production, are you?

A. I am.

Q. Will you state to his Honor, please, the cause or reason for such a low production as 119 tons from the Pista orchard in the season of 1940?

A. 1940 was a low production year. We had heavy rains around the time of the blooming season. Many of them could not get on their sprays in time. The brown rot, the blossom rot, hit fairly heavy, and the jacket rot or green fruit rot, also known as, I should say, as the green fruit rot, took quite a toll of the apricots and the set over the county was light in that year.

Q. Take those conditions that you describe as existing in the season of 1940 and resulting in the low crop, to what extent, if at all, did any of those

(Testimony of William Lewis.)

conditions exist or be comparable with the situation in the season of 1943? I want to compare one year with another and find out.

A. In 1943 we did not have as much Sclerotinia, or, I should say, brown rot, the rots. We had quite a little more foggy weather in 1943, even though we did not have any more rainfall; we had a colder and foggier condition in 1940. [57]

Q. Those disease conditions would you compare with 1943 in the Pista orchard?

A. In the Pista orchard in 1940 there was brown rot started, and there was considerable jacket rot in there. For some reason other than control—in most of the orchards we spray, but there is no control for your jacket rot by spray. The only control they have is cultivation to discourage the mushroom or aphitesia form of green rot or jacket rot. In 1943 there was very little jacket rot. My conclusion—I say “conclusion”—that was because jacket rot develops as the cot bursts the jacket and it has dried on there and has not fallen off, and then the wet weather comes in. The spore is in under the jacket, and then with the wet condition it develops, and rot starts in.

Q. Comparing 1940 with 1943, then, there was nothing that existed in 1943 in comparative conditions that should have produced such a short crop as 119 tons, was there, in 1943?

A. Would you ask that question again?

Q. Pardon me. I will reframe it. Comparing 1940 with 1943, the conditions that you testified as

(Testimony of William Lewis.)

existing in 1940, they did not exist in 1943 in a way that should have held the 1943 crop down to 119 tons? A. No.

Mr. Naus: You may cross-examine.

Cross-Examination

Mr. Moore: Q. Mr. Lewis, what territory is involved within your jurisdiction?

A. Monterey County. [58]

Q. The entire county of Monterey, is that correct? A. The entire county, yes.

Q. Is it a fact that throughout the county there was a short crop in 1943?

A. There was a very short crop.

Q. Very short crop?

A. 20 percent was the estimate.

Q. And I suppose various orchards varied with regard to their yield, is that correct?

A. They did.

Q. Were there any orchards in there that had as low a yield as the Pista orchard?

A. The whole Prunedale district.

Q. What is that?

A. The Prunedale district.

Q. The Prunedale district? A. Yes.

Q. Where is that?

A. That is north of Salinas in that hilly country, that sandy, hilly country.

Q. How many orchards are there in that neighborhood?

A. Well, that is just divided up into little

(Testimony of William Lewis.)

ranches, and I have never made a real count of the orchards.

Q. In that district what percentage of yield did they have there?

A. Some of them from a complete failure up to about 10 or 15 percent.

Q. They were complete failures——

A. Well, where you only get a half dozen cots to a tree I would call them a complete failure.

Q. Were there any number of orchards that ran from 10 to 20 percent?

A. In Monterey County?

Q. Yes. A. Yes.

Q. Can you tell us what orchards they were that produced between [59] 10 and 20 percent?

A. Well, you have the California Orchard for one. That was the largest orchard in the valley.

Q. The California Orchard? A. Yes.

The Court: Q. How many acres?

A. There are 406 acres, your Honor.

Q. Who is farming that?

A. That is a company.

Q. What company, do you know?

A. It is known as the California Orchard Company, and Arnold Prue is superintendent.

Mr. Moore: Q. What was their yield?

A. About 15 to 20 percent.

Q. 15 to 20 percent. They were not affected by any dust, were they?

A. They were not affected by any dust.

Q. This Fruitvale that you were talking about——

(Testimony of William Lewis.)

A. Prunedale.

Q. Was that affected by dust in any way?

A. No, it wasn't affected by dust in any way.

Q. What orchards in Monterey County that you observed were there where there was any evidence of dust from this plant?

A. The Pista, the Anderson, and some on the Bob Sterling. I have seen the dust on the Bob Sterling, but not at all times.

Q. What production did they have on the Bob Sterling ranch?

A. About a 35 percent crop.

Q. 1943?

A. In 1943, yes.

Q. About a 35 percent crop?

A. Yes.

Q. And you noticed on that evidence of this dust, is that correct?

A. There was an evidence of the dust at different times. [60]

Q. Was there any evidence of dust on the Bardin ranch?

A. No.

Q. That ranch is owned by the Bardin family?

A. Judge Bardin died here a little over a year ago, and his wife, Mrs. Bardin, is running the ranch now.

Q. And he was a partner of Mr. Harrington?

A. He was a partner of Mr. Harrington.

Q. You have worked on that ranch, have you not?

A. Yes; in fact, since 1941 they have called me in on practically all the work that they do on the apricot orchard.

Q. In other words, you have been employed by the Bardin family to supervise that ranch?

(Testimony of William Lewis.)

A. They get my advice.

The Court: Q. How many acres do they have?

A. 23 acres of full-grown apricots, and there are about 18 acres—18 to 20 acres of young apricots that are just starting to come in now.

The Court: Pardon me.

Mr. Moore: Q. So you are familiar with the Bardin ranch? A. Yes, I am.

Q. In 1943 when did it bloom? Can you tell us?

A. It started the first week in March.

Q. The first week in March? A. Yes.

Q. I understood you to say—

Mr. Naus: Q. You said it started?

A. Started.

Mr. Moore: Q. (continuing): —t h a t the Pista ranch was late?

A. Just a little bit later, yes. [61]

Q. How much later would you say?

A. I would say around five days later.

Q. Five days later than—

A. It would be around that time.

Q. The Bardin? A. Yes.

Q. Now, did the Bardin ranch have these three cycles of budding or blossoming that you described with the Pista ranch? A. Yes, they did.

Q. In each one of those cycles will you describe what occurred? By that I mean, in the first cycle did the buds all set? A. No, they did not.

Q. They dropped off?

A. They dropped. Most of the second and the last cycle set.

(Testimony of William Lewis.)

Q. On the Bardin ranch?

A. On the Bardin ranch.

Q. In other words, the behavior of the fruit on the Bardin ranch was exactly the same as on the Pista ranch, was it not? A. Yes.

Q. There was no difference; the whole process of nature was the same with the exception—

A. With the exception of the starting of the bloom—with the exception of the time that it started to bloom.

Q. I mean, the first cycle when these buds broke off both the Pista ranch and the Bardin ranch, they budded, did they? What happened?

A. The first cycle?

Q. Yes.

A. Just formed a little cot, stood there a few days, and dropped off.

Q. That happened on the Bardin ranch?

Q. That happened on the [62] Bardin ranch, too.

Q. That happened on the Pista?

A. That happened on the Pista, on the Lester Sterling, and on the Bob Sterling, and Anderson.

Q. Now, with the Bardin ranch what, in your opinion, caused those little cots to drop off?

A. Failure of the pollen to reach the pit. That would be my opinion.

Q. On the Bardin ranch? A. Yes.

The Court: Read that last answer?

(Answer read.)

(Testimony of William Lewis.)

The Court: Q. Of the fruit?

A. Of the fruit. May I explain that, your Honor?

Q. Certainly.

A. When a bloom opens, the cot is already formed there. It is very small. While you can't find the pit at the time, you can see where it is. There are soft—well, it is a liquid in there, and the pollen enters the pistil, travels down through, and it has got to get into there or it is not fertilized and will drop off.

Mr. Moore: Q. As I understand it, apricots to a certain extent are self-pollinizing, are they not?

A. They claim that.

Q. On the other hand, there is pollen carried to them probably by insects and likewise?

A. Yes.

Q. In other words, it is both self-pollinizing and also from outside pollinization?

A. Yes, that is correct.

Q. It is that pollen coming into the blossom, or even before [63] with self-pollinization, that makes the cot fertile, is that right?

A. If it travels down through there and enters the pit it makes it fertile.

Q. On this first cycle on the Bardin ranch your explanation is that that pollen did not reach the pit?

A. That is my opinion.

Q. Now, why didn't it reach the pit, do you know? Or what is known in regard to that?

A. My opinion was chilly weather at that time.

(Testimony of William Lewis.)

Q. Was what?

A. Chilly weather, cloudy, rainy, chilly weather.

Q. That stopped the pollinization, if we might term it that? A. Yes.

Q. And that condition existed in all the orchards through that neighborhood, is that correct?

A. It did.

Q. In fact, in all the orchards in Monterey County that same condition existed, did it not?

A. That same condition existed.

Q. Now we come to the second cycle, the second blooming, if we want to call it that. Did exactly the same process take place with that on the Bardin ranch?

A. Not to as heavy an extent. Some of the second bloom set on the Bardin and on the Bob Sterling and on the Lester Sterling.

Q. Some of them, because they were not fertile, fell off, is that right? A. That is right.

Q. Would you say that practically throughout Monterey County on the first blossoming or on the first cycle pretty generally all the young apricots fell off? Was that true throughout the county?

A. That was true throughout the county, and if I may go further to say in the southern part of the county, where it happened to be a little warmer, they did not have as long a cycle of bloom as we did in the northern end.

Q. And where is the Bardin ranch?

A. It is in the northern part in the Alisal.

Q. You said the Bardin bloomed approximately

(Testimony of William Lewis.)

five days before the Pista bloomed. Did it have about the same bloom as the Pista ranch?

A. About the same.

Q. In the second cycle, then, part of these unfertile cots fell off, is that true?

A. That is correct.

Q. And I suppose that varied somewhat throughout the county, is that correct?

A. That is correct.

Q. Now, with the Pista ranch did exactly the same process take place there that took place at the Bardin ranch on this second cycle or second blossoming?

A. The fall of the second cycle was heavier on the Pista than it was on the Bardin.

Q. Were there other orchards in Monterey County where the fall on the second setting was as poor as it was on the Pista?

A. The Anderson.

Q. Any others?

A. Let's see. In that area it ran just about the same. In the southern end of the county and in the area away from there, why, the second practically ended it, and what set they got, they got on the second—what we call the [65] second height of the blooming period.

Q. The second what?

A. The second height of the blooming or the second set—the blooming period, I guess you would call it, the second height of the blooming period.

(Testimony of William Lewis.)

Q. Then, as I understand you, they had a third stage, did they not?

A. We did up there in Alisal. The others, instead of going into a height, bloomed itself out at the other end.

Q. That is the southern end of the county?

A. The southern end.

Q. But the northern end——

A. The northern end went the same way.

Q. —had a third cycle?

A. The Prunedale area had a third cycle just the same.

Q. Did the Pista and Bardin have the third cycle, too?

A. Yes, they had the third raise on them.

Q. Will you describe what happened on the Bardin ranch with this third cycle or third blooming?

A. After the second cycle we figured there wasn't going to be a set. This third raise came up, and I made the inspection of the orchard I told the Judge and Mrs. Bardin that I thought they would have a crop. I waited ten days, went back and looked at it, and told them they would have to thin part of the orchard. In fact, I had to take the Judge out and show him there would be too many cots on part of the orchard.

Q. And those, if I understand you, came on this third cycle? [66]

A. Yes.

Q. Was there a change in the weather between the first, second and third cycles?

A. Yes.

(Testimony of William Lewis.)

Q. What happened?

A. There was a warming up there for a few days.

Q. As I understand you, with the fruit dropping off on the first and second blossoming it is your opinion that that was caused throughout that territory by cloudy, cold, foggy weather; is that correct?

A. That is my opinion.

Q. And that is true of that whole district?

A. Yes.

Q. Now, with the third blossoming the weather had warmed up somewhat?

A. It warmed up there for a few days.

Q. And out of that, when that warm weather came, the Bardin got a sufficient number to set that they even had to thin them out, is that correct?

A. Yes, they had to thin part of the orchard.

Q. Did you see what happened on the Pista ranch with regard to that third blooming?

A. The heaviest part of the set came on the third bloom on that, and on the Anderson orchard, although both of them was very light.

Q. Isn't that true in that whole northern district? The crops that were secured practically came on that third blossoming, did they not? Do I make myself clear?

A. I didn't just get the first part.

Q. I say, in that whole district, in that northern district, the [67] fruit that was finally produced came on that third blossoming very largely, did it not?

A. At least 60 per cent.

(Testimony of William Lewis.)

Q. The trees in the Pista orchard are somewhat diseased, are they not?

A. On the Pista orchard there is some oak root fungus.

Q. There is some oak root fungus?

A. And *Amelleria Mella*.

Q. On what portions is that oak root fungus found?

A. Well, you can find an occasional tree in different parts of the orchard, more so on the northern end. A tree affected with oak root fungus, as soon as the infection becomes heavy enough to cause any damage to your crop, immediately kills the tree. It affects the bark just under the surface of the ground, where the infection enters from the root.

Q. Are there any other diseased trees other than those that are affected with the oak root fungus in this orchard?

A. Not with an economical disease, other than if you want to say your brown rot that enters so many orchards.

The Court: Q. What is the brown rot?

A. That is that rot that enters the blossoms during rainy periods that they spray for.

Q. What is the oak root fungus?

A. Oak root fungus is a fungus that is in the ground that attaches itself to a root and travels on up the root to the main branch. Traveling up there it poisons the sap cells all the way up and

(Testimony of William Lewis.)

makes itself apparent so that you can distinguish it by the fan-shaped—we call [68] it mycele. It is a fungus disease that is in the ground.

Q. Would it be caused by too much irrigation?

A. No, your Honor, it is in the ground. It has been introduced or brought in by some oak tree.

Q. In adobe soil in a rainy season, an extremely rainy season, would that bring it about?

A. In adobe soil or an extremely rainy season where it would be too wet——

Q. Where there is no drainage.

A. Where there is no drainage, you would have an excess there which might hold——

Q. What would that cause?

A. It might hold that feeler or root that goes out and attaches itself to the live root; it might hold it back. But with ideal moisture conditions, as that moisture goes down your strand of mycele might stretch out then and attach itself to a tree.

Mr. Moore: Q. Did you observe any other diseased trees on the Pista orchard in 1942, 1943 and 1944 other than those that were attacked by the oak root fungus?

A. I saw one or two limbs with a disease that is known as the black heart; that is the common name for it.

Q. What type of disease is black heart?

A. Well, it is more of a virus or bacterial disease that enters the root, goes on up and causes the wilting of a limb, of which sometimes it recovers. It is known as a verticillus.

(Testimony of William Lewis.)

Q. Besides oak root fungus and the black heart did you notice any other diseased trees?

A. No, I did not. [69]

Q. In your opinion were the trees in healthy condition outside of those that you refer to as diseased trees?

A. You are speaking about 1942?

Q. 1942, 1943, and 1944, the last three years.

A. There was a condition in the fall of 1943 that is not clear yet to me. I have to watch it for a year or so more. There is a kind of brittleness of the small branches that I cannot just place my finger on at the present time. I called the attention of that to Mr. Packard when we were in there in the spring of 1944. It is just noticeable and that is all. Now, whether that is going to continue or increase, or whether it is some other condition, I have got to watch it to find out, because there is no way to determine that only by observation.

Q. Aside from that and the black heart and the oak root fungus, you would say the trees were in healthy condition?

A. Yes. May I go further on that?

Q. Oh, surely.

A. I explained to Mr. Packard at the time that there was a question in my mind that spraying with Bordeaux would cause a brittleness of leaves. That is why they have eliminated the Bordeaux and are using copper oxide in the control of blight, and on tomatoes we have a certain transformation there that has a tendency to stunt the tomato. That is

(Testimony of William Lewis.)

why they are using copper oxide and getting away from the lime. What I am watching for is to see whether that is going to increase, and it will be up to a chemist to determine whether [70] it is a lime or what it is that is causing it.

Q. Bordeaux mixture is made out of what?

A. Lime and copper.

Q. Copper sulphate?

A. Bluestone, yes—copper sulphate, commonly known as bluestone.

Q. That has been a common spray used in spraying apricot trees for generations?

A. I started to use it in 1922.

The Court: Q. Are they using it now?

A. They are using it on apricot trees before the foliage comes out, and in an emergency where you have to use something, where it is take your stunting or control the fungus; sometimes you have to use it when you would just as soon use something else, as it is the most perfect fungicide we have run into, or a control to give a perfect control of any of the fungi.

Q. Who sprays these ranches?

A. They do their own work, your Honor.

Q. That was a pressure spray?

A. A pressure spray, yes.

Mr. Moore: Q. The Bordeaux mixture is in about what proportion of lime and copper sulphate?

A. They use from what is known as a 5-5-50—that is, 5 pounds of copper sulphate, 5 pounds of lime, and 50 gallons of water—up to 8-8-50, which

(Testimony of William Lewis.)

is 8 pounds of lime to 8 pounds of copper sulphate to 50 gallons of water.

Q. In other words, outside of the difference in the water, the lime and the copper sulphate are constant, that is, they are even with each other?

A. They are even, yes. That is our [71] recommendation.

Q. What sort of lime is it that is in the Bordeaux mixture? A. You mean dehydrated?

Q. I mean slaked.

A. They can use slaked if it is properly slaked, or they can use a little raw lime, slake it in water, and have it perfectly slaked before they add it to the tank.

Q. It should be slaked before being placed on the tree?

A. It has to be, otherwise you would not have a neutral copper.

Q. They spray with that at the time of blossoming, do they?

A. It is advisable to get it before many of your buds have gone out of the pink stage to the white or blossoming stage, because after the bloom is open, as soon as that petal shows, it is in a conditions then that it can be infected.

Q. You say it is advisable to do it just before blossoming. At times is spray put on during the blossoming period?

A. Yes; some of them use two sprays. They use a 4-4-50, or sometimes they drop one pound of lime, and I have seen them use as low as one pound

(Testimony of William Lewis.)

of lime to two pounds of copper, but you are getting too near the danger point there and have free copper when you get down that low.

Q. Maybe I did not hear you correctly. Do some orchardists spray with it during the blossoming period?

A. In severe winters sometimes they do.

Q. That is a spray that is put on, as his Honor asked you, by a pressure rig?

A. By pressure, yes. [72]

Q. What pressure is usually used in spraying?

A. They use over— —

The Court: Q. It depends on the machinery you have?

A. That is correct; it depends on the machine. With good machines they try to run from 450 to 500, so they can ride the rig.

Q. So I can see *how* are progressing in that country, how many of those machines have they down there?

A. Practically every orchard, your Honor.

Q. That machinery has come into use in recent years, hasn't it, that pressure?

A. The first machine I bought was a low-pressure, second-hand rig in 1923.

Q. I like the country so well I keep my eye on it if I can. The first pressure spray that I saw, it seems to me, with a 450-pound pressure was possibly six or seven years ago. I do not recall seeing them before that time.

(Testimony of William Lewis.)

A. I never saw them before that time up to 450. That was when the Hardy and Beeman came out.

Q. I just wondered how far behind I was.

A. They carry 600 pounds pressure putting oil on carrots.

Mr. Moore:: Q. With the Pista orchard in 1943 do you happen to know when he sprayed there?

A. I can't give you the exact date. I remember it was, if not the end of the first week, the start of the next week of March. It was right in about that time.

Q. Was it before——

A. I may be mistaken. [73]

Q. To the best of your recollection was it before or after the blossoming had commenced?

A. It was just before the bloom started to open up.

Q. Just before? A. Yes, in 1943.

Q. In your direct testimony you said, if I understood you correctly, that you visited the Pista ranch late in February and you also visited it the first week in March 1943. A. Yes.

Q. At which one of those visits was it that you observed the spraying taking place? The March visit?

A. When the spraying took place was—I know it was between one of the visits when he started putting it on, and it must have been just after the second visit.

Q. Just after the second visit?

(Testimony of William Lewis.)

A. Just after the second visit, yes.

Q. When you say "just after," that would be the visit in March?

A. Yes, that would be the first week in March.

Q. You say it was just after——

A. I am not sure of that, but as I remember.

Mr. Naus: Mr. Moore, he has already testified on direct to several visits in March.

Mr. Moore: I realize that. I am just trying to fix this particular date, that is all.

Q. How about the Anderson orchard? Do you recollect when the spraying occurred there?

A. That was just after the first of March. [74]

Q. How about the Bardin? When did you spray there?

A. The Bardin ranch was started in February, the latter part of February.

Q. I believe you said that when you visited this at that time, or along in March, it gave evidence that it would make a normal crop, is that right?

A. I said the prospect was that they could have a normal crop.

Q. At that time? A. Yes.

Q. And you estimated that normal crop at seven tons to an acre for 40 acres, is that right?

A. For that orchard for that year.

Q. That would be what you would call 280 tons?

A. Yes.

Q. 280 tons would be a normal yield?

A. Following the crops of the year before, that would be a normal crop for that year.

(Testimony of William Lewis.)

Q. Was the yield on the Lester Sterling ranch or orchard 40 per cent?

A. Lester Sterling had about a 40 per cent crop if he had picked it all. He picked about 30 per cent.

The Court: When was this? 1943?

Mr. Moore: 1943 I am referring to.

The Witness: Yes, 1943, your Honor.

Mr. Moore: Q. How about the Bob Sterling? What was his crop?

A. I estimated it in April at about a 35 per cent crop.

Q. What did he actually get, do you know?

A. He didn't quite get that much. I doubt if he got over 30 per cent.

Q. What did Mrs. Kerns' ranch do?

A. Mrs. Kerns' ranch is one [75] that is not being taken care of or not being sprayed, that I didn't even waste any time on.

Q. What is that?

A. I didn't even waste any time on that, any more than to look to see what brown rot was in there. They haven't taken care of that orchard. It is only a little orchard.

Q. Don't you know what——

A. I don't know what her tonnage was, whether she picked anything off of it or not.

Q. What was Wilmouth? Did you observe that?

A. Yes, but I don't know what his tonnage was.

Q. How about the Hill orchard?

A. The Hill orchard was very light.

(Testimony of William Lewis.)

Q. What would you say the Hill orchard produced? A. In tonnage?

Q. Yes, or percentage, percentage of normal—any way you want to put it.

A. Not over 10 tons.

Q. Over 10 tons? A. Not over 10 tons.

Q. What would that be, what percentage of a normal crop?

A. That would be 10 or 15 per cent. I will say on the Hill ranch I did not visit it very much.

Mr. Moore: I do not know what time your Honor wants to adjourn.

The Court: Do you think you can get through today?

Mr. Moore: I think so.

The Court: All right; I yield. I will give you a reasonable time. If you do not think you can get through, I will adjourn. [76]

Mr. Moore: Q. Did you want to go back tonight, Mr. Lewis? A. If I could.

Q. How about the 1944 crop? What were the weather conditions this spring?

A. We had ideal conditions this spring.

Q. Ideal weather conditions?

A. Weather conditions, yes.

Q. There was a very high percentage of crops that were fertilized and steady on the trees, isn't that correct? A. Very high.

Q. In fact, would it be going too far to say that in practically every orchard in Monterey County this year they had to thin them out?

(Testimony of William Lewis.)

A. In nearly all.

Q. In nearly all? A. Yes.

Q. Did you see the Pista orchard this spring?

A. Yes, I did.

Q. What kind of a yield did he have there?

A. This year I missed my estimate on all orchards in the county. The Pista had a very good stand except a few of the trees just after you cross the Gabilan Creek, and to the left in there there were some trees, and a few right there before you cross the creek on your left, that would need no thinning in there. The rest of them needed thinning.

Q. You had a very heavy crop, as a matter of fact, did you not? A. Yes.

Q. It took a very considerable amount of thinning on his part, to thin the fruit out, did it not?

A. On all orchards, practically all orchards. [77]

Q. In other words, the fertilization there this year was fine? A. Yes, it was.

Q. And as you say, the weather conditions this year were ideal?

A. Was ideal. We had foggy weather, but we did not have the cold rain.

Q. You referred to the California Orchard Company as I believe you said one of the ranches that got about 10 per cent. A. About 20.

Q. About 20? A. 15 to 20 per cent.

Q. They have two ranches in Monterey County, have they not?

(Testimony of William Lewis.)

A. You mean the Carlisle-Thorpe and the California Orchard?

Q. I didn't understand you.

A. Do you mean the Carlisle-Thorpe and the California Orchard?

Q. I don't know. I understood the California Orchard has two separate orchards in Monterey County.

A. It is on the same ranch, unless you are referring to the Carlisle-Thorpe across the Greenfield Road.

Q. Yes. A. Yes.

Q. One of those had a very much heavier yield than the other, did it not? A. Last year.

Q. 1943? A. Yes, it did.

Q. And they are practically adjacent to one another, are they not?

A. They are, I would say, a mile and a half to two miles separating them.

Q. How many times did you irrigate at Bardin's during 1943? [78]

A. Once before the fruit was picked and——

Q. Can you tell us approximately when?

A. Just before the 20th of May—tried to finish up by the 20th of May.

The Court: The fruit——

The Witness: The fruit—a year ago he started picking around the first of July.

Mr. Moore: Q. Do you know whether Pista irrigated in 1943?

(Testimony of William Lewis.)

A. I didn't notice Pista irrigating until after the fruit was off towards the fall.

Q. That was in the fall?

A. Yes, that was in 1943.

Q. 1943 I am referring to. A. Yes.

Q. Did you cultivate the Bardin ranch in 1943?

A. Well, they cultivated it, yes.

Q. When did they do that, do you know?

A. Just after the Bordeaux spray was put on.

Q. Do you know whether Pista cultivated in 1943?

A. I can't recall now whether that was cultivated or not at that time.

Q. When you were on the property in 1944, this year, did you see evidence of dust on the orchard?

Mr. Naus: Do you mean from Permanente?

A. Not to any excess; not to any excess in 1943.

Mr. Moore: Q. In 1944?

A. In 1944—pardon me. In 1944 I didn't see it to any excess.

Q. But you did see dust on the orchard?

A. There was a [79] little, yes. That is, it was on the ground—I didn't notice it on the trees—and some on the buildings.

Q. Did you look at the leaves on the trees to see whether they had dust on them in this year?

A. You could see just a little, but on the fruit at picking time I didn't see a particle of dust. I didn't notice a particle of dust on the fruit.

Q. In 1943 was there dust on the trees?

A. Yes, there was.

(Testimony of William Lewis.)

Q. In a greater amount, was it?

A. To a greater amount.

Mr. Moore: I think that is all, your Honor.

Mr. Naus: I will try to finish quickly.

Redirect Examination

Mr. Naus: Q. In other words, Mr. Lewis, in 1944, as compared to 1943, in the Pista orchard there was a great falling off in the quantity or volume of the Permanente dust, in the Pista orchard?

Mr. Moore: I object to that.

Mr. Naus: Q. So far as you could tell by using your eye?

A. By using my eye, yes.

Q. That is what I mean. I have no idea of the percentage or anything of the sort, but it was a perfectly obvious or apparent fact, wasn't it?

A. Yes.

Q. This California Orchard Company, the two orchards that you mentioned about a mile and a half apart, how far is that from the Permanente plant, roughly? A. About 37 miles.

Q. Is it or not in a wholly different district than the district [80] that the Pista orchard is in?

A. It is entirely different.

Q. Is there or not any uniformity in percentage of apricots setting or in crops, that covers or blankets the county as a whole, or does it vary at various spots within the county?

A. In figuring percentages, every area is dif-

(Testimony of William Lewis.)

ferent. Prunedale is, if I may go to the extent of explaining, an area that should never have had cots in it. The Natividad and Alisal area produces a very good shipping cot. The Greenfield area produces a good shipping cot. But on account of a high humidity down there, hotter weather, they have to be more careful in handling that than they do up in the Natividad and Alisal area, for the reason that with the heat your cots ripen faster. There is less danger of your different rots during shipment, during the hot spell in the Greenfield or King City area, while there is a danger of your brown rot on apricots in the Alisal and Natividad area, especially if you have your water on too late in the spring like, say, after the 20th of May. You get over the danger line, because most years your apricots come in the first of July. This year they didn't come in until the first of August, which increased our tonnage and upset my estimate on it. I was figuring on most of those orchards 12 to 14 to the pound, when I put in my apricot estimate to the department, and when they finally picked it they ran 10 to 12 to the pound.

Q. In other words, this year, 1944, there was an unusually late [81] harvest season?

A. It was an unusually late harvest season.

Q. What district do those California Orchard Companies lie within?

A. That is the Greenfield and King City area.

Q. In the year 1943 you spoke of the Bardin

(Testimony of William Lewis.)

orchard having 23 acres in full bearing, as I understood you. A. Yes, I did.

Q. In the year 1943 what tonnage was harvested from those 23 acres? A. About 135 tons.

Q. That Bardin orchard is roughly just about half the size of the Pista orchard, isn't it?

A. Just about half the size.

Q. Now, you spoke of some oak root fungus and black rot—— A. Black heart.

Q. —black rot on one or two limbs in the Pista orchard. The Pista orchard, we understand, has about 44 acres. It runs about 70 trees to the acre, doesn't it, roughly?

A. Pretty close to it, not quite.

Q. There are somewhere around 3000 or 3100 trees in the orchard, then, apricot trees in the Pista orchard? A. Yes.

Q. Of those 3000 or 3100 trees what would you say is the maximum number of trees affected by any of the diseases that you have mentioned as having observed in the orchard?

A. Any tree that is noticeable with oak root fungus is dead. A tree affected with black heart—now, the term "black heart" can be used for different diseases. We use a technical term on it to identify that fungus. There were two trees I noticed with that there. Otherwise I couldn't say there were any other [82] diseases.

Q. Just two trees out of the 3000 or 3100, is that right?

(Testimony of William Lewis.)

A. That was affected with disease. There are weak trees and there are strong trees, but that will be in any orchard.

Q. In other words, of the 3000 or 3100 trees, outside of a couple all were in a healthy, full bearing condition, is that correct?

A. Yes, with the exception of those that were dead. Pardon me.

Q. About how many would that be? Outside of the 3000 or 3100 could you give his Honor an estimate of the total number of the trees that you now refer to? A. No, I couldn't.

Q. Would it be less than 100? A. Yes.

Q. Would it be less than 50, do you think?

A. It would be less than 50; it would be less than 25 at the present time, because they would pull them as soon as they were dead or nearly so.

Q. Then 25 or 50, whatever the number is, would be the total number affected by the oak root fungus, wouldn't it? A. Yes.

Q. Now, you have been asked about spraying, irrigating and the like. I will ask you this question: From all the observations you have made of the conduct, the handling of the Pista orchard, has the Pista orchard through the years been handled in a good, effective, efficient, farmerlike way? A. It has.

Q. Through the years that you have observed it have you any criticism of either the spraying or the irrigating in the Pista [83] orchard?

(Testimony of William Lewis.)

A. Well, after the fruit crop came in last year I thought it should have been watered a little sooner than it was.

The Court: Q. What is the purpose of the watering?

A. To build up your tree and build up your buds for the next year, and hold your root system so it won't get dry, although I may be wrong on that, because we had a wet winter, and there could have been sufficient moisture underneath.

Mr. Naus: Q. What you are referring to might have affected the 1944 crop, but it could not have affected the 1943 crop, isn't that correct?

A. It could, yes.

Mr. Naus: That is all. May the witness be excused, unless Mr. Moore wants him further?

Mr. Moore: I do not think I will want him any further.

Mr. Naus: I did not want to hold him here unnecessarily.

The Court: We will adjourn until tomorrow morning.

(Thereupon an adjournment was taken until tomorrow, Wednesday, September 13, 1944, at 10:00 a. m.) [84]

Wednesday, September 13, 1944,
10:00 O'Clock A. M.

Mr. Naus: Shall I proceed?

The Court: You may proceed.

Mr. Naus: Call Mr. Twining.

F. E. TWINING,

called as a witness by Plaintiff; sworn.

The Clerk: Q. Will you state your name?

A. F. E. Twining.

Direct Examination

Mr. Naus: Q. Mr. Twining, you are located in business where?

A. Fresno.

Q. What kind of business?

A. Chemical and physical laboratory, sir.

Q. Your laboratories operate under what name there? A. The Twining Laboratories.

Q. How long have you been engaged in the business of the Twining Laboratories at Fresno?

A. Well, I have had laboratories in Fresno for forty-six years—in 1898.

Q. Speaking generally, what is the nature of the business conducted by those laboratories during that period?

A. Our laboratory handles a general line of scientific research work. It is the largest laboratory run on the Pacific Coast, and very well equipped.

Q. Is that or not conducted under your personal supervision or [85] direction? A. Yes, sir.

(Testimony of F. E. Twining.)

Q. Have you through the years at any time made any studies or experiments or tests with respect to the effect of deposits of dusts of various kinds on fruit trees? A. A number of them.

Q. State generally to his Honor so he will understand, over what period of years you conducted those, and of what nature, just generally?

A. I would state that in various forms of dust we have made examinations, oh, over a period of at least thirty years, and very intensive studies in the last ten years.

Q. And those studies have embraced what types or species or kinds of dust?

A. Well, a number of cement plants—we did the work for both the cement companies and ranchers in the immediate district, there.

Q. In California? A. Yes.

Q. Have you made dust studies in connection with fruit orchards?

A. These were principally orchards.

Q. Have you made studies, or experiments, or tests with respect to Mr. Pista's orchard that we referred to in this case, the apricot orchard near Salinas?

A. I made a number of examinations and trips through this orchard.

Q. When? A. My first trip to the orchard, itself, was on the 14th of March of this year.

Q. The 14th? A. Yes.

Q. That was one trip. Have you made other trips? A. There have been two trips. [86]

(Testimony of F. E. Twining.)

Mr. Moore: Pardon me. Did you say March 14th——

Mr. Naus: Q. I think you said March 14th——

A. March 14th, May 22nd and August 1st.

Q. Of 1944? A. Yes.

Q. Prior to actually making personal trips to the orchard, itself, did you or did you not ever test or examine any vegetation, foliage, leaves, and the like from that orchard? A. Yes.

Q. When?

A. In December, 1942. I had some foliage from trees sent to me to determine what the white deposit was on these leaves.

Q. You mean sent to you by Mr. Pista?

A. Yes. They came through.

The Court: Q. That was in 1942?

A. In 1942, yes.

Mr. Naus: Q. December, 1942. Now, was there any other foliage sent to you after that occasion in December, 1942 and before your personal visit in 1944?

A. Yes. This foliage in 1943 was sent to me after my visit in 1944.

Mr. Moore: I do not want to interrupt——

Mr. Naus: But you are interrupting.

Mr. Moore: I know that.

Mr. Naus: What is it you wish?

Mr. Moore: I did not get the dates straight.

Mr. Naus: I am trying to get them straight. I am trying to give his Honor first the dates. Now, the witness has given them straight. The difficulty

(Testimony of F. E. Twining.)

I think has been in the recep- [87] tion. He gave the three dates in 1944 that he actually visited the field.

Mr. Moore: That is correct.

Mr. Naus: Prior to any visit to the field he first received foliage, leaves, and the like in December, 1942.

Mr. Moore: Q. That is correct, is it?

A. Yes.

Mr. Naus: And that he has further testified that after he had visited, at some time visited the field in 1944 there were turned over to him some samples that Mr. Pista had taken as of 1943.

Q. Have I fairly summarized your testimony?

A. Yes, that is correct.

Q. Now, Mr. Twining, in your examination of this vegetation that was sent to you in December, 1942, I think you said to determine what this white dust that was on there, what did you find it to be?

A. I found it to be a dolomite, that is, a combination of magnesium and calcium carbonate.

Q. Have you a memorandum, or did you make a report of the analysis of that?

A. I only have—I have a copy of a letter that was written.

Mr. Naus: If your Honor will permit me, I will submit to Mr. Moore the original report that Mr. Twining made to Mr. Harrington, at Salinas, the attorney, and if there is any objection to the whole of the report, the narrative going in, I will ask the witness to detach the chemical analyses and we will

(Testimony of F. E. Twining.)

put [88] those in. I am willing to use the whole or just take out the analyses, themselves, if it is desired that way.

Mr. Moore: May we have about a five-minute recess?

The Court: We will take a recess.

(Recess.)

Mr. Naus: If the Court please, before proceeding with the witness, Mr. Welsh, the Clerk, has reminded me about the reporter's transcript, which has not yet been mentioned. Arrangements have been made with the Court Reporter to give each side a copy and a third copy, original, or whatever it is, to the Court, each of us paying half of the cost, and I suggest if that be agreeable all around, the Judge's copy be placed on file with the Clerk.

Mr. Moore: That will be satisfactory.

Mr. Naus: Q. Mr. Twining, you made a report to Mr. Pista or to Mr. Harrington, his attorney, an original report dated March 31, 1944, and you recognize that as that report, do you not, the original of it? A. Yes.

Mr. Naus: I ask that it be marked for identification.

The Court: Let it be marked.

(The report was marked Plaintiff's Exhibit 4 for Identification.)

Mr. Naus: Q. Then at a later time, dated as of August 8, 1944, you made a supplement to that report or a supplementary report and you recognize this as it, don't you?

(Testimony of F. E. Twining.)

A. Yes. Do you [89] want an explanation?

Q. No, I just want to identify that. You recognize that as a supplementary report, don't you?

A. Yes.

Mr. Naus: I ask that it be marked for identification.

(The document in question was thereupon marked Plaintiffs' Exhibit 5 for Identification.)

Mr. Moore: May I say something?

Mr. Naus: Yes.

Mr. Moore: During the recess Mr. Naus and I discussed this matter. It is a scientific matter. And we have asked the privilege of studying these reports that Mr. Twining has made, and that is the reason he has marked them for identification. We are not going to make any objection to their admission other than we would like to have the opportunity to have them studied over the noon hour, your Honor.

Mr. Naus: I stated to Mr. Moore, if the Court please, that the reason I had not torn out the chemical analysis in the first place is that I am reluctant to take a document apart. So in order to meet the present situation, I suggested I would ask that each document be marked for identification, and then as to chemical analysis and the like figures, I would offer in evidence the separate page containing that, without regard to the narrative elsewhere in the report; that if it be desired that the whole report go in, naturally I would welcome it. If there

(Testimony of F. E. Twining.)

is any objection to it, I would approach the matter in [90] another way.

I also stated to Mr. Moore that if your Honor would grant him permission at today's noon recess I would have no objection to the Clerk giving custody of these exhibits for identification to Mr. Moore until 2:00 o'clock. Does that cover it?

Mr. Moore: That covers it.

Mr. Naus: Q. Mr. Twining, your original report is now called Plaintiffs' Exhibit No. 4—we will call it that—the supplementary report is No. 5. On pages 3 and 4 of Exhibit 4 there are the detailed data, figures and the like, of an analysis or analyses. Which samples or what vegetation were the subject of that analysis or those analyses?

A. This is the vegetation I took when I made my trip in March.

Q. In March of 1944? A. March of 1944.

Q. Give me that date in March again?

A. The 14th.

Q. That analysis of vegetation was of vegetation taken by you personally from the Pista ranch on March 14, 1944? A. That is correct.

Mr. Naus: I offer in evidence those pages 3 and 4 of Exhibit 4 for Identification.

Mr. Moore: I would like to reserve my objection. I do not think I am going to make an objection when I get through, but I would like to reserve it at this time.

The Court: Very well, it will go in subject to a motion to strike. [91]

(Testimony of F. E. Twining.)

Mr. Naus: I won't attempt to take up your Honor's time reading that. It consists of figures and percentages, and perhaps I can cover it in another way than by reading it.

(Pages 3 and 4 of Exhibit 4 for Identification was received and marked Plaintiff's Exhibit 6 in evidence.)

Mr. Naus: With your consent, Mr. Moore, I would like to take this Exhibit No. 5—and with his Honor's consent—I notice the five pages are not numbered—I would like to number them now.

Mr. Moore: That is the supplemental report?

Mr. Naus: That is the supplemental report and Mr. Clerk, I will put 1, 2, 3, 4, and 5 in circled pencil in the upper right-hand corner of each page.

Q. Mr. Twining, I hand you Exhibit 5 for Identification and direct your attention to the page numbered 3 on that, that relates to a sample of dolomite ore. When and where was that sample taken?

A. That was taken below the quarry—was that page 3?

Q. That is what I have numbered 3.

A. That was taken below the quarry.

Q. What quarry do you mean, the Permanente plant quarry? A. That is right.

Q. On the Permanente property? A. Yes.

Q. When was that taken and by whom?

A. That was taken August 1st.

Q. What year? [92] A. This year, 1944.

(Testimony of F. E. Twining.)

Q. Did you analyze that sample of ore from the Permanente property? A. Yes.

Q. Is this page 3 a true analysis of it?

A. Yes.

Mr. Naus: I offer in evidence that page 3.

Mr. Moore: May that take the same course as the previous exhibit?

The Court: Yes.

(Page 3 of Exhibit 5 for Identification was received in evidence.)

Mr. Naus: Q. I now invite your attention to page 4 of that Exhibit 5 for Identification and ask what those samples were and when and where they were taken?

A. These were taken on the 22nd of June.

Q. What year? A. This year, 1944.

Mr. Moore: I have not seen it, Mr. Naus. Can you identify it some place? You say "these samples." Samples of what?

Mr. Naus: Mr. Moore, each of these pages has a legend at the time that identifies the sample, but I will cover it. They are self-explanatory in that respect.

Mr. Moore: Don't you think having it in the record would help?

Mr. Naus: I am offering it in evidence, and it will be in the record, and it will help. But in the meanwhile I would like to lay a foundation for it so later, when the record is [93] gone over with a fine-tooth comb it won't be said I failed to prove something.

(Testimony of F. E. Twining.)

Mr. Moore: Mr. Naus, I do not know whether you are talking about dolomite ore——

Mr. Naus: I am not talking about dolomite ore; I am talking about dolomite deposits on vegetation.

Mr. Moore: May I add to that page 4 shows a heading, "Samples, branches from apricot trees taken by F. E. Twining and J. S. Pista, June 22, 1944."

Mr. Naus: It is not in evidence. There is nothing in the record that tells us that yet.

Mr. Moore: I just want to get it identified in the record.

Mr. Naus: It is already identified. It is in the custody of the Clerk with exhibit numbers and the page numbers referred to. There is full identity.

Q. Will you answer the question, Mr. Twining?

A. Let us have that question.

(The reporter, reading:

"Q. I now invite your attention to page 4 of that Exhibit 5 for Identification and ask what those samples were and when and where they were taken?")

A. These were samples of foliage from the apricot trees on the Pista orchard taken on May 22, 1944.

Mr. Naus: Q. May or June 22nd? The paper here says "6."

A. June 22nd—sixth month. I have sixth month here. [94]

Q. Taken off the trees as live leaves at that time?

(Testimony of F. E. Twining.)

A. Yes, that is correct.

Q. Now, is the chemical analysis appearing on page 4 a true result of the analysis made in your laboratory?

A. One column shows the amounts on the apricots and another column the amounts on the leaves.

Q. My question is, is it a true analysis, a true result of the analysis? A. Yes.

Q. In the left-hand numerical column you have "Apricots" there. That means the fruit, itself, does it? A. Yes.

Q. And then in the right-hand column, where it says, "Leaves," are the leaves from the apricot trees that the fruit came from? A. Yes.

Q. And similarly, I invite your attention to page 5 of that Exhibit 5 for Identification and ask the same question with respect to it: What the samples were and when and where they were taken.

A. Those are samples of apricots and leaves taken on August 1, 1944.

Q. From the Pista orchard?

A. At the Pista orchard. They were picking at the time.

Mr. Moore: May I make a statement, Mr. Naus? I will withdraw my former statement and let them go in, not for identification, but let these reports go in as evidence. Of course, any conclusions he has made——

Mr. Naus: The Court is not bound by any conclusions. [95] That simplifies it. I will come to that in a moment.

(Testimony of F. E. Twining.)

Q. Just to complete what was left in mid-air here, are the analytical results shown on that page 5 of Exhibit 5 the true results of those analyses of the leaves and fruit from the Pista orchard?

A. Yes.

Mr. Naus: I at this time offer in evidence Plaintiffs' Exhibit 4 for Identification.

The Court: It may be admitted and marked.

(The document referred to was received in evidence and marked Plaintiffs' Exhibit 4.)

PLAINTIFFS' EXHIBIT No. 4

The Twining Laboratories

We Test Anything

Telephone 3-2118

2527 Fresno Street, Fresno, California

Analysts	Address Mail to
Industrial Chemists	P.O. Box 1472
Testing Engineers	Fresno 16, California

March 31, 1944

The following is a brief report on examination of Pista apricot orchard on March 14, 1944, and it was definitely shown that deposits of dolomite were present on the vegetation.

Experiments and field examination of dusts containing soluble lime and/or magnesia have demonstrated positively that the soluble lime prevents pollination and fertilization of the blossoms and that most of the damage to the fruit crop is done

(Testimony of F. E. Twining.)

during blossoming time. However, deposits of dust on what fruit does develop seriously affect value and price of same.

It was shown that dust from Permanente plant was being slowly deposited at time of investigation (March 14), and that damage to this year's crop will occur. Just what percentage can be approximated after petals have fallen and fruit begins to drop.

Examination

B48154

For—Mr. B. Pista

Watsonville, California

An examination on March 14, 1944, of an apricot orchard of 53 acres including some of the other vegetation in and around same, belonging to B. Pista, and located about one-half mile north of calcining plant and dolomite quarries of the Permanente Co., showed the following conditions:

(These properties are located in Natividad District of Monterey County, California.)

The orchard was in bloom but it was apparent that blossoms were less in number than the average apricot orchard. Little foliage was on apricot trees at this time, but leaves from an orange tree and several oaks showed white encrustations on upper side.

Grasses and weeds along ditch were well advanced in growth and samples washed with acidulated water showed presence of dolomite. Also

(Testimony of F. E. Twining.)

samples of upper layer of soil taken in undisturbed portion of orchard, also where no spray material would be deposited, showed presence of considerable greater quantity of lime and magnesia than deeper portion.

SAMPLES—DEPOSIT ON OAK LEAVES, CITRUS LEAVES, AND WEEDS

No. 1: Oak leaves, small sample

No. 2: Citrus leaves

No. 3: Weeds, Wong creek, north of house

No. 4: Oak twigs and leaves, large sample

	No. 1	No. 2	No. 3	No. 4
Weight of sample, grams.....	20.4	9.5	27.2	65.0
Total weight of deposit, grams.....	0.794	0.162	0.026	2.603
Percent on vegetation	3.89	1.71	0.09	4.00
Total weight of calcium carbonate (CaCO ₃) grams	0.514	0.109	0.015	1.432
Percent in total deposit	64.7	64.3	57.7	55.0
Percent in vegetation	2.52	1.10	0.05	2.20
Total weight of magnesium carbonate (MgCO ₃), grams	0.103	0.025	0.008	0.176
Percent in total deposit	12.9	15.4	30.7	6.8
Percent on vegetation	0.50	0.26	0.03	0.27
Total weight of silica (SiO ₂), grams	0.117	0.004	0.001	0.544
Percent in total deposit	14.7	2.4	3.8	20.9
Percent in vegetation	0.57	0.04	0.003	0.84
Total weight of iron and alumina (R ₂ O ₃), grams	0.051	0.020	0.001	0.327
Percent in total deposit.....	6.4	12.3	3.8	12.6
Percent on vegetation	0.25	0.21	0.003	0.50

SAMPLE—SOIL

	Top 4"	12"
Total lime (CaO)	1.05%	0.58%
as Calcium carbonate (CaCO ₃).....	1.87%	-----
Total magnesia (MgO).....	1.10%	0.51%
as Magnesium carbonate (MgCO ₃).....	2.35%	-----

(Testimony of F. E. Twining.)

Explanation of Analyses

1. The lime and magnesium are deposited as oxides, but gradually form carbonates when exposed to air.

2. It will be noted that amount of material on weeds was much less than on leaves due to fact that weed growth was new and had been exposed but a short time, while deposits on leaves extended over previous year and had not been washed off by winter rains.

3. The percent of lime and magnesia shows that the encrustations were dolomitic material.

Analysis of deposits on apricot leaves taken late in the fall of 1942 and 1943 shows considerable amounts of dolomitic material present.

Many fruit growers in the vicinity of lime and dolomite quarries and calcining plants, also Portland Cement mills, have noticed that the dust produced more or less serious damage to crops, especially deciduous fruits. There was a decrease in both amount and quality of fruit on the trees within the dust zone.

The following remarks are based on experimental work done by ourselves over a period of many years.

Appearance of Foliage

The foliage of plants in the dust zone show deposits of a fine, grey, gritty material. The thickness of the coating varies with the distance from the source and is usually perceptible for a distance of two miles from the source.

(Testimony of F. E. Twining.)

Source

That the dust comes from the quarries and calcining plants (particularly the latter) is evident by the following:

1. Chemical composition which shows that same is lime and/or magnesium oxides with some carbonates and different from road dust.

2. It is found nowhere else except in the area about the mills.

3. Reaction of recently deposited material is alkaline.

A study of mills in operation shows two main sources of dust:

1. Crushing of raw and calcined materials.

2. Stacks of kilns where materials are calcined.

The stacks are undoubtedly the principal source of the dust on foliage because the strong draft in the kilns carry some of the fine, dry material out of the top of the stacks (quite apparent to the eye.)

The distance to which the dust is carried points to high kiln stacks and forced ejection. The prevailing winds have considerable to do with this effect.

Amount of Dust

The amount of dust deposited on soil and foliage varies with distance from plant, weather conditions, and (so far as foliage is concerned) the type of vegetation.

Samples of leaves taken from the apricot trees in the fall of the year 1942 showed rather heavy

(Testimony of F. E. Twining.)

deposits of the dust indicating approximately 1½ to 2 tons per acre.

Samples of foliage from same orchard taken in 1943 showed rather heavy deposits of dust. The crop was very much diminished from previous years.

Analyses of all these deposits show same to be dolomite which had been calcined, then partially carbonated by exposure.

Samples of soil showed over 4% of lime and magnesium carbonates, in first 4 to 6 inches with decreased amounts in deeper layers.

Damage

A large amount of experimental work and numerous investigations in the field have been made on the effect of different dusts on various crops. The following are some of the facts determined:

Heavy deposits of ordinary road dust will cause trees to yield less fruit than when same are free from such dust.

Dusts, containing calcined lime and/or magnesia, which includes dolomitic material, Portland cement, quicklime, etc., differ from other dusts in that by absorbing dew or moisture in the atmosphere they form on the leaf surface a more or less hard encrustation that is not easily removed by rain, and may be difficult to remove by hand. The amount of this coating is usually less on annual crops or plants that shed leaves annually. However, there is always less fruit on the dusted side of trees.

(Testimony of F. E. Twining.)

During the past 8 to 10 years we have had occasion to determine the principal cause of injury to fruit trees by dusting same with above-mentioned materials at various times, and it has been found that damage is due to affect of soluble lime and magnesia on the blossoms.

In all cases where the material had been calcined and contained some soluble lime and/or magnesia present there was a decided injury to the fruit blossoms.

Only a small percentage of the blossoms so treated with such dust set fruit. (The unburned lime and dolomite—neutral carbonates—produced but little effect.

For some time after the falling of the petals no difference could be observed between blossoms so treated and those untreated. Both grew at the same rate. Often it was 10 to 15 days after blooming that any difference was noticeable. The unfertilized fruit stopped growing and soon dropped.

It has been shown definitely that the water soluble lime is the main substance affecting the stigma or the stigmatic secretions in such a way as to interfere with fertilization and thus permit setting of the fruit (Magnesia produces the same effect.)

THE TWINING LABORATORIES

By F. E. TWINING

FET/ep

[Endorsed]: Filed 9/13/44.

(Testimony of F. E. Twining.)

Mr. Naus: I at this time offer in evidence Plaintiffs' Exhibit 5 for Identification.

The Court: It may be admitted and marked.

(The document referred to was received in evidence and marked Plaintiffs' Exhibit 5.)

PLAINTIFFS' EXHIBIT No. 5

[The Twining Laboratories Letterhead]

August 8, 1944

Mr. J. T. Harrington
National Bank Building
Salinas, California

Dear Sir:

We enclose a copy of findings in the last two trips to Pista Orchard, and would say that it is quite evident that either some method of reducing the dust, or considerable less operating has occurred at the Permanente Plant this season.

The deposits on the oak leaves taken on March 14, 1944, and on apricot leaves taken in the fall of 1943 and 1942, show heavy deposits which would indicate decided damage both to setting of crop and to the appearance of the fruit at harvest.

This year (1944) while there was dolomite present on the blossoms and leaves, in March, it was so little that no great damage would occur although undoubtedly there was some.

At harvest there could be seen on the fruit and leaves some deposit, but on the fruit it would not appear to the ordinary observer, although the coating on the fruit was slightly gritty. A careful ex-

(Testimony of F. E. Twining.)

amination by a proposed purchaser would probably result in a loss of sale or if same was made, at a reduced price.

It is going to be rather difficult to assess damages for this season as the crop is large and in fairly good shape. However, we do know that damage has occurred in the past both by reducing amount of the crop and appearance of it.

Your very truly,

THE TWINING LABORATORIES

By F. E. TWINING

fet/lp

Examination

B53482

Supplementary report on Pista Orchard, East of Salinas near Calcining plant and quarries of Permanente Co.

Inspections were made and samples of leaves and apricots were taken on June 22 and August 1, 1944. Results show very decidedly that there was deposited on the foliage and fruit of this orchard much less material than in the years 1942 and 1943.

Our analyses of leaves made December 12, 1942, and later on leaves taken during 1943, and on oak leaves early in 1944 show very heavy deposits of dolomite.

The figures for deposits on apricots and apricot

(Testimony of F. E. Twining.)

leaves on July 22, 1944, and on apricots (during picking) and leaves on August 1, 1944 are attached.

THE TWINING LABORATORIES

By F. E. TWINING

fet/lp

Sample—Dolomite

Taken below quarry by F. W. Twining, on
August 1, 1944.

Silica (SiO_2)	0.05%
Iron and Alumina (R_2O_3)	0.18%
Calcium Carbonate (CaCO_3)	56.34%
Magnesium Carbonate (MgCO_3)	43.40%

This is a high grade ore and probably better than the average.

THE TWINING LABORATORIES

By F. E. TWINING

hgr/lp

Sample—Branches from apricot trees, taken by
F. W. Twining and D. S. Piston, 6-22-44.

	Apricots (15)	Leaves (30)
Total weight of sample taken.....	480 grams	17 grams
Surface area of sample taken.....	57.5 sq. in.	123.2 sq. in.
Weight of total deposit.....	29.7 mg.	86.8 mg.
Percent of total deposit on sample.....	0.0062%	.5105%
Weight of total deposit per sq. in.....	0.791 mg.	0.705 mg.
Weight of silica (SiO_2) per sample....	2.7 mg.	7.7 mg.
Percent SiO_2 in total deposit.....	9.09%	8.87%
Weight of iron & Alumina (R_2O_3)		
per sample	0.6 mg.	1.7 mg.
Percent in R_2O_3 in total deposit.....	2.02%	1.96%
Weight of Calcium Carbonate (CaCO_3)		
per sample	13.9 mg.	42.1 mg.
Percent CaCO_3 in total deposit.....	46.80%	48.50%
Weight of Magnesium Carbonate		
(MgCO_3) per sample	11.1 mg.	31.2 mg.
Percent MgCO_3 in total deposit.....	37.38%	35.94%

F.E.T.

(Testimony of F. E. Twining.)

Sample—Branches from apricot trees, taken by F. W. Twining, on August 1, 1944.

	Apricots (21)	Leaves (89)
Total weight of sample taken	1000 grams	50 grams
Surface area of sample taken.....	37.5 sq. in.	123.2 sq. in.
Weight of total deposit	223.5 mg.	398.4 mg.
Percent of total deposit on sample.....	0.0224%	0.7968%
Weight of total deposit per sq. in.....	1.188 mg.	1.186 mg.
Weight of Silica (SiO_2) per sample....	32.7 mg.	55.9 mg.
Percent of SiO_2 in total deposit.....	14.61%	14.03%
Weight of Iron and Alumina (R_2O_3) per sample	12.9 mg.	21.7 mg.
Percent of R_2O_3 in total deposit.....	5.76%	5.44%
Weight of Calcium Carbonate (CaCO_3) per sample	96.6 mg.	182.0 mg.
Percent of CaCO_3 in total deposit....	43.23%	45.68%
Weight of Magnesium Carbonate (MgCO_3) per sample	70.7 mg.	121.3 mg.
Percent of MgCO_3 in total deposit	31.64%	30.45%

F.E.T.

[Endorsed]: Filed 9-13-44.

Mr. Moore: We reserve the objection, your Honor, to any conclusions that the witness stated there. We do not accept those as evidence.

Mr. Naus: I take it what is meant by that is they are open to weighing by your Honor in light of the cross-examination and in light of contradictory evidence and opinions, if there are any; that is definitely understood, of course.

Q. Mr. Twining, in this Plaintiffs' Exhibit 4, the report was prepared and signed by you personally, was it? A. Yes.

Q. The statements of fact or opinion or con-

(Testimony of F. E. Twining.)

clusions or theory [96] or anything in there are your statements? A. Yes.

Q. That is equally true as to Exhibit 5, the supplementary report, is that correct? A. Yes.

Q. And in each of those exhibits Nos. 4 and 5 those opinions, statements, conclusions, theories and the like are re-stated by you now under oath on the stand, are they?

A. They are statements made by me from data which I had and based on information of work done in the past.

Q. I do not think you quite followed me. At the time you made these originally they were simply unsworn statements in writing by you to Mr. Pista or to Mr. Pista's attorney. I am asking you now whether you are prepared to repeat the same statements here in court as being true, to the best of your belief. A. Absolutely.

Mr. Moore: I just want to make one objection, Mr. Naus.

Mr. Naus: Yes, only one.

Mr. Moore: So the record may show that we are not bound by his conclusions in regard to matters in which he is not qualified.

Mr. Naus: I will join in that, Mr. Moore, because I know that his Honor already knows that and would look at it in that light.

Q. Now, Twining, is there anywhere in that entire area or neighborhood down there that the dolomite or dolomitic deposit that you found on the

(Testimony of F. E. Twining.)

vegetation and fruit in the Pista orchard could come from except the Permanente plant?

A. Not that I know of. [97]

Q. You have been through that neighborhood and looked it over, haven't you?

A. Over many years, yes.

Q. Is there any other source whatever that it could have come from that you know of?

A. No, that is the only calcine plant in the district that I know of.

Q. Are you satisfied that is where it came from?

A. Yes.

Q. Did you make any tests or experiments with respect to the effect of the deposit of such dust on the leaves, blossoms, and the like of the apricot orchard, with respect to the effect that it would have?

A. I knew the effect of deposits of that kind from experiments made over a period of ten years.

Q. State the effect of such deposit of such dust on the leaves, blossoms, fruit and the like, the vegetation, in an apricot orchard.

Mr. Moore: I am going to object to that as too general—leaves and everything else. I think it ought to be precise. I think the question is highly indefinite, your Honor. The minute you go into botany and into the study of plant life you get a wide variation, and I think Mr. Naus' question is too general.

Mr. Naus: Well, it is the deposit of the dust by the defendant that pushes this farmer into botany,

(Testimony of F. E. Twining.)

and I could only ask the question that would be called for by the issues in this case. Here we have established that dolomite dust, or whatever [98] you call it, comes from that plant and comes in the orchard. Having gotten in the orchard, I want somebody competent to state what effect it has. I can't ask everything in one question.

Mr. Moore: I know you can't ask everything in one question, but you can cut your questions to pieces so you ask one question at a time. In other words, this gentleman is an expert, your Honor.

We are put in a very peculiar position here in determining whether it is a question of interference with pollinization, whether it is the growth of the tree, photosynthesis, or what it is, and here is a man who is an expert, and I think that he should be held down to definite questions on his direct examination, not what this particular dust does on general things, but what it does in this particular instance, what the dust is composed of, and all the chemical reactions, and I make the objection the question is entirely too general.

Mr. Naus: If the Court please. I have already separately established what your Honor has not had an opportunity to see, exactly what that dust is composed of in the finest mathematical quantities, by the various chemical names and the like. I have fully identified the dust and where it comes from. I am merely asking this witness here to tell what happens in an apricot orchard to apricot trees when such dust falls on the trees, what is the effect of it.

(Testimony of F. E. Twining.)

The Court: Is that your question? [99]

Mr. Naus: That is my question.

The Court: He may answer that question.

A. The effect of that dust can be in at least two forms. If a calcine material is deposited in the blossoms during the blossoming period—of course, this dust is alkakine—it affects the secretion of the stigma and prevents the pollinization or fertilization. That occurs during blossoming time and, of course, depends on the quantity as to how much damage it might do.

The other damage it can do is the amount of deposit on the fruit and the appearance of the fruit. Also, the deposit on the leaves, if heavy enough, and interference with photosynthesis may cause trouble to the tree eventually.

Mr. Naus: Q. You spoke of calcine material. In these exhibits and in the chemical analyses that appear in them, does calcine material appear?

A. Well, of course, a calcine dolomite is a magnesium and calcium oxide.

Q. Is that present in these oxides?

A. Oh, yes.

Q. Take this dolomite ore on the Permanente ground there. It is quarried out, surfaced quarried, is it not?

A. Yes, that is, in the form of a carbonate.

Q. Whether it is quarried in that quarry in the first instance, it is not yet calcium, is it?

A. No, it is not calcium.

(Testimony of F. E. Twining.)

Q. There is a plant on the Permanente property in which the calcine occurs, does it?

A. There is a calcine kiln there on [100] the property.

Q. Is that the plant that has those tall high stacks connected with it? A. That is right.

Mr. Moore: Pardon me, Mr. Naus, may I make a suggestion? It might assist your Honor to understand this thing if I made a brief statement at this time so that your Honor will fully appreciate this matter. Dolomite, as I understand it, is a deposit of calcium carbonate—we expect to prove this—and magnesium carbonate. This mine, if you call it that, or quarry is located outside of Salinas. The first step in this process is putting it in a kiln, there, that is similar to, you might say, a cement kiln. Cement is calcium carbonate primarily. Dolomite has magnesium and is about a fifty-fifty percentage of magnesium carbonate and calcium carbonate. It is put through practically the same process that it is put through in cement kilns. You correct me, Mr. Twining, if I am in error.

The Witness: That is right.

Mr. Naus: Just a minute, Mr. Moore. Please, now. Don't give any direction like that to the witness. I want to interrupt right there.

Mr. Moore: May I withdraw it?

Mr. Naus: No. I merely wish to make a statement as you are making. I will have no objection to your making a statement at this time that will assist his Honor in any way. In so far [101] as

(Testimony of F. E. Twining.)

they are statements of fact, I will expect them to be proved through witnesses on the stand. Now, when I have a witness on the stand and you ask him to listen to you and correct you as you go along, you are in effect seeking to have the witness give a sort of approval or disapproval to what you say. I would rather the witness be silent during this statement, but I will make no objection to the statement if it will assist your Honor.

Mr. Moore: I will withdraw that. I did not intend to do that, your Honor. In the light of Mr. Naus' objection, I will apologize. In the next step it is taken over to Moss Landing and there sea water, which has magnesium also in it, and chloride—this magnesium oxide is mixed there with magnesium chloride, and the magnesium oxide is finally taken to the Permanente plant at Saratoga, where it is finally made into magnesium metal. This is one continuous process. The dolomite is mined at Salinas and there put in a kiln similar to a cement kiln. The dust that is now involved in this matter comes from this kiln.

Mr. Naus: Q. Let me ask whether the samples of vegetation, leaves and the like upon which this dust fell in 1943, when compared with the samples that you took upon which dust fell in 1944, showed any difference with respect to volume or quantity of the deposit of dust?

Mr. Moore: I am going to object to the question. I do not recollect any samples taken in 1943. What were they? [102]

(Testimony of F. E. Twining.)

Mr. Naus: If your Honor please, there is evidence about them.

Mr. Moore: May we have them introduced in evidence or in some way identified?

The Court: Are these samples in 1943?

The Witness: I did not take samples. I had some samples taken.

Mr. Naus: The witness has testified two or three times, if the Court please, the only personal samples taken by him were in 1944, but that independently of the samples taken by him, he analyzed samples taken by the Pistas and sent to him for examination, samples taken in 1943 and, in fact, some in 1942. That is all in the case. Now, I am asking him simply upon a comparison of those samples what his analysis and examination of them shows with respect to the volume of dust deposited on vegetation in 1943 as compared to the volume deposited in 1944.

The Court: He may answer if he knows, and then you may develop it on cross-examination.

A. Yes, the deposits were heavier in 1943 than they were in 1944. I might simplify that a little by an explanation.

Mr. Naus: Q. Very well.

A. You see, the foliage given me that was taken in 1943—it was sent to me——

Q. Yes.

A. The foliage I took in March of 1944 were three of the samples taken from foliage that had lasted over the year. [103] over the winter, and one

(Testimony of F. E. Twining.)

was taken from weeds that had an early growth. Of course, that was early in the season and the deposit would be very light, and it was followed up by subsequent visits over there.

Q. What were these samples that you speak of, samples of the foliage carried over from a previous year? Describe them.

A. There were some oak leaves and citrus leaves taken at various places on the property.

Q. Were you able from such samples, those carry-over leaves, to compare the deposit of one year with another?

A. The deposit we obtained in March thereon the foliage——

Mr. Moore: Pardon me just a moment. I do not like to interrupt—you say March; do you mean 1944?

The Witness: Yes.

Mr. Naus: Q. That is the same March 14, 1944 that you have mentioned about a half a dozen times, **Mr. Twining?**

A. Yes. That is the one I took samples of in order to get an idea how much material had been deposited since the previous time I took foliage that had carried over from the year before. The foliage at the time—there were practically no leaves on the apricot trees, and we took samples off a pretty good growth of weeds along the little stream running through the orchard.

Q. You mean weeds carried over from the previous year?

(Testimony of F. E. Twining.)

A. No, they were new. That was new growth.

Q. New weeds. I wanted to clear that up. Now, in making that [104] comparison of 1943 with 1944, will you tell me what that comparison showed with respect to extent or volume of deposit?

A. Well, the volume of deposit on those leaves was heavy. On the weeds it was very light.

Q. When you say heavy on the leaves, do you mean the carry-over leaves from the year before?

A. Yes.

Q. When you say light on the leaves, do you mean the new vegetation of 1944? A. Yes.

Q. When you compare heavy with light, they are sort of general terms; can you give us an approximation as to how many times heavier or something of that sort?

A. I might give you some figures here.

Q. All right, make the comparison of the two years now.

A. The percent on the vegetation, that is, the total deposit——

Q. Dolomite?

Mr. Moore: Wait a minute: Please don't lead him, Mr. Naus.

Mr. Naus: I am not interested in percent of deposit of anything. There may have been seagulls in the neighborhood. I am not interested in that. I am only interested in dolomite.

Mr. Moore: May I voice an objection, your Honor? We are talking about the deposit on the figs or the trees, or what have you.

(Testimony of F. E. Twining.)

The Court: His sample has to do with new growth and oak leaves that he took samples of there, and that goes to the weight of the testimony.

Mr. Naus: I am only seeking to compare one year with another.

Mr. Moore: I understand that, but what I objected to was Mr. Naus interposing the word "dolomite."

Mr. Naus: I just wanted to tell him that it was dolomite only that we were interested in.

Mr. Moore: That is what we object to. It was not dolomite at that time. I think Mr. Twining would agree with me. The only thing I objected to was Mr. Naus' interjection.

The Witness: I explained that by giving the variations on the vegetation. For instance, on the oak leaves, on a small sample taken at one place, we had 3.89 percent by weight on the vegetation.

The Court: Q. What was that?

A. That was dolomitic material. We have an analysis of it, so I could tell.

Mr. Moore: May I interrupt a moment and ask a question?

Q. Mr. Twining, you are looking at certain figures there. May I ask what they are?

A. These figures—that was the total percent of the deposit. Now, I could give you the amount of the magnesium and the amount of the calcium oxide.

The Court: He wants to know what you are reading from.

(Testimony of F. E. Twining.)

The Witness: This is page 3 of the General Report.

Mr. Naus: I think, Mr. Moore, the witness is only referring to his own carbon copy of the exhibits. That is all he has.

Mr. Moore: That is all I want to know [106]

The Witness: Now, on the citrus leaves we got 1.71 per cent. On the weeds along the creek we got .09, that is, nine-hundredths of one per cent. On the oak twigs and leaves and other samples taken from another tree we get 4 per cent. [106-a]

Mr. Naus: Q. Take the quantities of this dolomitic material, or whatever one should call it, that your analyses showed deposited in the year 1943, what if any effect would that, or such a deposit have on the pollinization in the apricot orchard?

Mr. Moore: Wait a minute. I am going to object to that, as this witness is not properly qualified as an expert.

Mr. Naus: I submit he is, if the Court please. There is no suggestion in the objection of any element that could be cured. He just waves his hand generally and says, "I don't think he is qualified." It does not sound like an objection to me.

Mr. Moore: I will raise the objection that I do not think he is qualified as an expert on horticulture and botany. He is an expert chemist, as I understand it.

The Court: You can interrogate him if there is any question about it, and lay the foundation.

(Testimony of F. E. Twining.)

Mr. Moore: Q. Mr. Twining, what experience have you had in the matter of horticulture and botany?

A. Well, for a period of over forty years I have been in the Fresno district and handled—I would say 50 to 60 per cent of our work is agriculture.

Q. In the matter of pollinization have you had occasion to study that?

A. Yes. We did a number of experiments and made a number of examinations of the effect, primarily I would [107] say, of cement dust. However, on alkaline dusts on the blossom. In other words, we have an acid secretion on the stigma of the blossom which may be neutralized, depending on the quantity of an alkaline material deposited there.

Mr. Moore: I will withdraw any objection, if your Honor please.

Mr. Naus: Mr. Reporter, will you read the pending question.

(Question read as follows: “Q. Take the quantities of this dolomitic material, or whatever one should call it, that your analyses showed deposited in the year 1943, what if any effect would that or such a deposit have on the pollinization in the apricot orchard?”)

A. I would state that any alkaline material, calcine dolomite or calcine lime will affect if it is deposited during the blossoming time.

(Testimony of F. E. Twining.)

Mr. Naus: Q. Explain to his Honor how that occurs and why that is so.

A. I simply repeat the statement that there is a sort of an acid secretion on the stigma of the blossom that is in the pistil, and this material will neutralize that and prevent fertilization. It is a question of quantity.

Mr. Moore: Pardon me. What was that last part?

The Witness: I say it is a question of quantity. It depends on the amount of material that is deposited on the stigma.

Mr. Naus: Q. The prevention of fertilization, I take it, [108] prevents the setting of fruit or the production of fruit, is that correct?

A. That is right.

Q. Assuming, Mr. Twining, the deposit of the dolomitic material in 1943 to the extent that your examination and analyses of the 1943 samples disclosed, and assuming that those samples came from the Pista orchard of 44 acres, or something like 3000 trees or over, and assuming that in the year 1943 that orchard and those trees produced no more than 27 tons of apricots, what in your opinion or estimate would the tonnage have been if that dolomitic deposit had not fallen upon the trees?

Mr. Moore: I will object to that as incompetent, irrelevant and immaterial, and also this witness is not qualified as an expert horticulture or agriculture student, and the hypothetical question asked him does not embrace all the facts as dis-

(Testimony of F. E. Twining.)

closed by Mr. Lewis as to what actually happened in that year. As I understand it, your Honor, a hypothetical question asked an expert witness, asking for his opinion, has to include every fact that has been disclosed in the evidence, and I do not think that Mr. Lewis' testimony is included here at all with regard to the cold and foggy weather and the three cycles of blossoming. I think the question is highly improper.

Mr. Naus: If the Court please, after all these years this is the first I have heard that a hypothetical question has to embrace every fact that has been mentioned in the case. I [109] understand the rule to be that such things that I do assume must have some basis in the record. My assumptions have that basis.

The Court: His question assumes these facts that he has related. That may not be all of them.

Mr. Moore: He has to assume, as I understand the law, your Honor—a hypothetical question asked an expert witness has to include substantially all the facts that have to do with the particular question. In other words, it is highly erroneous if it only includes one or two facts. It has to be all-inclusive. I do not mean every detail, but every substantial fact.

The Court: Now, let us follow that out. If it is a fact that on cross-examination the failure or the weakness of what he has failed to do, you can develop?

(Testimony of F. E. Twining.)

Mr. Moore: That may be true, but on direct examination with an expert witness—I am not talking about a witness who is testifying as to facts of his own knowledge, known observation—but a witness who is asked a hypothetical question—and I know your Honor has seen them, and I know I have seen them where I have spent days almost preparing a hypothetical question that may cover ten or fifteen pages of typewritten matter, to be sure that I have it all-inclusive. Now Mr. Naus asks a question here that does not include anything.

The Court: Let the reporter read the question so we will have a better understanding of it. [110]

(Question read.)

The Court: I am going to allow the question subject to your motion to strike.

(To the witness:) Can you answer that question?

The Witness: Just in a general way.

Mr. Naus: Very well; proceed.

Mr. Moore: After that answer I again raise the same objection, your Honor.

The Court: Same ruling.

Mr. Naus: Proceed with your answer, Mr. Twining.

A. There was definite damage due to the deposits. Now, in order to arrive at how much damage occurred, I either would have had to have examined that orchard through the season, or, taking into consideration general conditions, 1943 was what we call a low-crop year, and average it

(Testimony of F. E. Twining.)

up. For instance, the average in our particular territory would run from 35 to 50 per cent of a crop. Under those circumstances, why, of course, 27 tons was practically nothing.

Q. All right. How many——

Mr. Moore: Just a moment, please.

Mr. Naus: I thought he had finished. Do you wish to make an objection?

Mr. Moore: I want to make a motion to strike the answer out, your Honor, on the same grounds I voiced in the original objection. [111]

The Court: I will allow the record to stand. Let your objection be noted, and the answer stands subject to your motion to strike.

Mr. Naus: Q. I did not realize—had you or not finished, Mr. Twining? There was an interruption here.

A. I guess that is sufficient.

Q. Can you from the question I put to you indicate to me an opinion or estimate, say, in the form of how many times 27 tons might have been expected if there had been no dust?

Mr. Moore: I am going to voice the same objection and add to it this man is not qualified, is not a horticulturist, and how in the world can anybody even make a guess, your Honor?

The Court: I do not know, but I will have a record and you will have a record to comfort yourself with. I will allow it to go in under the same ruling.

(Testimony of F. E. Twining.)

Mr. Naus: May we have the answer, Mr. Twining?

A. My answer would be simply an estimate.

Q. That is all I am asking for.

A. Based on the conditions.

Mr. Moore: May it be understood my objection goes to this?

The Court: Let the record so show.

A. His crop could have been anywhere from 7, 8 or 9 times what it was.

Mr. Naus: Q. You mean times 27 tons?

A. Correct.

Q. State the reason or reasons for your estimate of 7, 8 or 9 times 27 tons.

A. Well, I am basing that simply on general [112] conditions that I knew occurred; that is all.

Q. In the year 1944, as I understand it, you have testified to three occasions beginning in March, I believe, on March 14, 1944—three occasions during the year on which you visited the orchard?

A. Correct.

Q. Was that occasion on March 14 in blossom time, or before or after blossom time?

A. It was during blsosom time.

Q. What did you observe on that occasion during blossom time and what did you learn from your estimate of the amount of dolomitic material then being deposited on the orchard with respect to the effect, if any, upon pollinization in 1944?

A. It could not be determined at that particular time. The amount of material deposited was ex-

(Testimony of F. E. Twining.)

ceedingly small, and it was too early to see the setting of the fruit.

Q. Then on the subsequent occasion did you examine further with respect to the deposit of dolomitic material and its effect, if any, upon the setting of the fruit in the year 1944? A. Yes.

Q. What did you find?

A. Well, I found that the deposit was very light and it had not affected the fruit to amount to anything.

Mr. Naus: You may cross-examine.

Cross-Examination

Mr. Moore: Q. You say that the deposit was very light in 1944 and had not affected the fruit?

A. I didn't say, I [113] wouldn't say that it had not affected the fruit any, but it was exceedingly small.

Q. Would you say it had or had not affected the fruit in 1944?

A. No, I wouldn't say either way. I would say if there was a light amount being deposited, there was a chance it might have affected the fruit. It was so small it did not.

Q. From your observation did it affect the fruit in 1944?

A. I understand they had a very good crop, so apparently it did not.

Q. You appreciate as an expert I am asking your opinion. In your opinion did the dust that was deposited on that orchard in 1944 affect the yield in any way?

(Testimony of F. E. Twining.)

A. No, not to amount to anything.

Q. Well, not to amount to anything?

A. In any way—I wouldn't state that, that it did not affect it in any way, but I would state that there was not sufficient there to affect it materially.

Q. What do you mean by that?

A. I mean it might have prevented a few blossoms. A man would have to examine the tree very carefully to see whether there was any dropping of the fruit at all.

Q. Mr. Twining, may I explain something? The plaintiff in this action is not only asking for damages but is asking for an injunction to close down this plant, and therefore the question whether there was any injury in 1944 to the fruit is of vital [114] importance.

Mr. Naus: One moment, if the Court please. As long as counsel is giving a law lecture to the witness, I will go further and say that we are entitled to an injunction if it can be shown that any dust is being deposited on the orchard.

Mr. Moore: I am asking the witness as an expert: In your opinion was the deposit of dust in 1944—did that affect the crop, the yield of apricots on the Pista ranch in any way?

A. Well, I wouldn't say no or yes to that. I would say not materially. It certainly did not affect it very much.

Q. If it affected it at all, it would be very little, is that correct? A. That is right.

(Testimony of F. E. Twining.)

Q. You stated that dolomitic material was deposited on this ranch. Will you state, please, what you mean by dolomitic material?

A. Well, dolomite is a mixture of magnesium—dolomite itself is a mixture of magnesium and calcium carbonates with some impurities.

Q. Did you make any analysis of any of the raw dolomite there that is mined at Salinas?

A. Yes.

Q. Where is that analysis?

A. I have an analysis—I have made some in the past, and I couldn't connect them up, but this particular sample was taken at the plant.

Mr. Naus: Here it is, Mr. Moore, on your side of the table, one of the exhibits.

Mr. Moore: I have not had a chance to study it, Mr. Naus. [115]

The Witness: This was an extra good sample that was taken on August 1, 1944.

The Court: Q. Where was it taken?

A. It was taken below the quarry at the plant.

Q. The ore itself? A. Yes.

Mr. Moore: Q. And that contains, outside of silica, iron and alumina, calcium carbonate, that is, CaCO_3 ? A. CaCO_3 .

Q. 56.34 per cent, is that correct?

A. That is correct.

Q. And magnesium carbonate, which is MgCO_3 , 43.40 per cent? A. That is correct.

Q. In the ordinary manufacture of cement what is the basis of cement?

(Testimony of F. E. Twining.)

A. The basis of cement, of course, is calcium oxide, that is, it is calcium compounds.

Q. Is it calcium oxide or calcium carbonate?

A. They use calcium carbonate and make a slurry, which is then calcined, and we get calcium compounds, of which some of it is calcium oxide.

Q. Would you mind taking the blackboard for just a moment, Mr. Twining, here? When dolomite is mined, the deposit down there is almost 50-50 calcium carbonate and magnesium carbonate, or very close to that?

A. We ordinarily figure it that way.

Q. Would you mind writing down the chemical formula for dolomite on the blackboard?

A. The formula would be (writing on blackboard) " CaCO_3 ", " MgCO_3 ."

Q. When you apply heat to that, that is calcined, that is the [116] term you used a moment ago?

A. Calcined, yes. If it is actually dead burnt, we get CaCO , that is, calcium oxide plus CO_2 , that is, carbon dioxide.

Q. And you get magnesium oxide, MgO , and CO_2 ?

A. That is dead burnt. They very seldom burn it that much.

The Court: Q. Do they burn this in a furnace?

A. At a high temperature in a rotary kiln.

The Court: That is what I thought, but I didn't know.

(Testimony of F. E. Twining.)

Mr. Moore: I have some photographs, your Honor.

The Court: That is all right. I just wanted to know that.

Mr. Naus: I have not examined that. You mean of the operation?

Mr. Moore: Of the operation.

Mr. Naus: No, I have not examined it yet. I have no objection to your marking anything for identification and letting his Honor see it. You gave it to me during the trial, I said I would be glad to look at it during the noon hour, but I have not looked at it yet, because I had my mind on something else. But I have no objection to your marking something and letting his Honor see it. I do not know anything about it. My understanding is the Pistas or their men were refused admittance to the plant during the pendency of this case.

Mr. Moore: They were not refused admittance by anybody.

Mr. Naus: You can't state that. They were there; you [117] were not.

Mr. Moore: I do not like to get into any dispute about that, but nobody was refused admittance.

Mr. Naus: Ask Mr. Klein about that. He might be able to tell you something about it first hand.

(The photographs were marked Defendant's Exhibit A for Identification.)

Mr. Moore: I might say, your Honor, the first is the quarry up there, that is, Natividad, and these

(Testimony of F. E. Twining.)

are the kilns. The first three pictures are the kilns. It is like where they take a picture of somebody with their feet showing too big.

Mr. Naus: May that be withdrawn by me during the noon hour?

Mr. Moore: Oh, surely.

Mr. Naus: I am asking his Honor. I have to get his permission now.

Mr. Moore: Q. Out of the stacks that are there, Mr. Twining, what material comes out of the stacks of the rotary kilns?

A. Well, on a rotary kiln we have a very strong draft through the kiln. Now, the material goes in there and that draft very often carries some of this dust, but the material that comes out of the stack is principally carbon dioxide.

Q. Carbon dioxide, or carbon monoxide?

A. Well, there might be a trace of monoxide.

Q. When that comes in contact, is there any change in its chemical constituency as it passes up the stack? [118]

Mr. Naus: Contact with what? Objected to as vague.

Mr. Moore: I will withdraw the question.

Q. Is there any change as that comes from the rotary kiln and passes up the stack, so far as its chemical formula is concerned?

A. The material that passes up the stack are these gases, and the force of them carries some of the fine dust with it.

(Testimony of F. E. Twining.)

Q. There is quite a difference in monoxide, dioxide, and calcium carbonate?

A. That does not enter into this at all except to carry out this dust.

Q. What do you mean, it does not enter into it?

A. This goes into the atmosphere and does not have any effect on anything.

The Court: Q. You mean the gases?

A. The gases themselves.

Mr. Moore: I am talking about the dust.

The Witness: Well, the dust is some of your dolomitic material, not entirely calcine, but some calcine.

Mr. Moore: May I interrupt? Let us get away from "dolomitic material."

The Witness: The material that goes in this plant is ground up fine.

Mr. Naus: If the Court please, how can we get away from dolomitic material if it is going up the stack and coming out of it? [119]

Mr. Moore: Q. Will you give me the chemical formula not of dolomitic material, because that is CaCO_3 and MgCO_3 , but I am asking you what the dust is that goes out of the stack. What is the chemical formula?

A. The chemical formula might be a half dozen different formulas.

Q. Give them to me.

A. You have some of your original calcium carbonate and magnesium carbonate, and then you have some calcium——

(Testimony of F. E. Twining.)

Q. Pardon me for interrupting you. You say "carbonate." That is CO_3 .

Mr. Naus: One moment, if the Court please. I suggest that counsel discontinue interrupting the witness, interrupting answers and leaving them incomplete.

The Court: In the heat of the battle counsel sometimes do that. You will refrain, will you, counsel?

Mr. Moore: I will. I am going to ask the witness to use purely chemical terms—not carbonates, dioxides, or anything of that sort, or magnesium oxide, but I am going to ask him to use chemical formulas when he talks about dolomitic material.

Q. I am asking you, if you will, to use the chemical formula, and I ask you what dust goes up the stack.

A. I will tell you. Your ore goes in your kiln with a heavy blast, that is, a flame in which there is a blast of air. That flame goes through here. This is carbonate, and so on, coming [120] up here, calcined, and in here you have partial calcined material. Down here maybe you have completely calcined material. Now, that draft is pulling all these different things up the stack. That flue dust may be extremely variable, that is, the dust itself. Now, we have got in that calcium and magnesium carbonate.

Q. That is MgCO_3 and CaCO_3 , is that right?

A. We have got this (indicating).

Q. That is what I want.

(Testimony of F. E. Twining.)

A. And then we have got this, and then we have some transitions (indicating).

Q. Pardon me just a minute. So that the record may show it, by "this," Mr. Twining drew a circle around " CaCO_3 " and " MgCO_3 "; that is correct, isn't it?

A. We have a mixture of carbonates and oxides along with silica, alumina, and iron oxide, and maybe some other impurities might be present.

Q. Have you ever made a test to see what the dust was that came out of those stacks?

A. This stack, no, but I know what comes out of it.

Q. But you have never made an actual test?

A. Not of this stack, no.

Q. Take a cement mill. Have you ever made a test there? A. Yes, sir, lots of them.

Q. Which one?

A. Santa Cruz, Pacific Portland, the Tehachapi, Mount Diablo, Calaveras.

Q. What came out of the stack? [121]

Mr. Naus: Had he completed his answer? I don't know.

Mr. Moore: I thought he had. I am not interrupting you, am I, Mr. Twining?

Mr. Naus: You keep doing it.

Mr. Moore: He has pretty nearly covered all the cement plants in the West.

Q. Now, did you make a test of what came out of the stacks?

(Testimony of F. E. Twining.)

A. I made tests of the dust that came out of the stack.

Q. I mean at the stack?

A. I made examinations of the dust, which was the product at the bottom of the stack. I have made examinations of the gases that came out.

Q. Let me ask you a question: In your opinion, at this plant there at Natividad the dust that comes out at the top of that stack—what is its chemical composition?

A. Well, you have got a mixture of oxide and carbonates.

Q. Can you write down in your opinion as an expert your formula of what you think comes out of the top of that stack?

A. It is a mixture of this (indicating on black-board). It is a mixture of that. It has some Fe, ferrous oxide, plus two or three oxides—it has some aluminum oxide, silica——

Q. You wrote down there—May I ask this—this is Fe. What is that?

A. Ferrous oxide, aluminum oxide, this is silicon oxide.

The Court: I have a number of other matters to take up. We will take an adjournment until two.

(Thereupon a recess was taken until 2:00 p. m. this date.) [122]

Wednesday, September 13, 1944

2:00 P. M.

F. E. TWINING

resumed.

Cross-Examination—(Continued)

Mr. Naus: If the Court please, pursuant to permission at adjournment, I took with me during the noon hour this Exhibit A for identification so that I could examine it. After examining it I see no objection to its being admitted, if it is desired to put it in.

Mr. Moore: Thank you very much.

Mr. Naus: Could you tell me, Mr. Moore—I can't tell from the document itself—the approximate date it was prepared? I don't know what date it is speaking of. Do you know?

Mr. McCarthy: No. I will tell you before you are through.

Mr. Moore: May I make this statement, Mr. Naus: It is, I think, what they call a flow sheet. Is that the usual term?

Mr. Naus: I can see what it is, Mr. Moore.

Mr. Moore: It is a flow sheet of the entire process known as the carbothermic process of making magnesia.

Mr. Naus: If the Court please, I know exactly what it is. I have examined it. I make no objection to its being received. I merely make the simple inquiry, if it can be answered—if not, we will pass it—as to the approximate date it was prepared.

(Defendant's Exhibit A for Identification was received in [123] evidence.)

(Testimony of F. E. Twining.)

Mr. Moore: Q. I believe at the recess, Mr. Twining, we were discussing the character of the dust that came out of the stack. A. Yes.

Q. And I believe you said that it consisted of calcium oxide and magnesium oxide and carbon dioxide with some—what do you call it?

A. Well, it has the other constituents in magnesite in small quantities; a very fine dust that is blown through the kiln into the stack.

Q. And that comes out of the stack?

A. Well, a lot of it stays in the stack.

Q. Well, did you ever make any chemical analysis of that particular dust as it is in the stack or leaves the stack, or anything of that sort, other than the analysis that may have come from what you saw on the ranch itself?

A. You mean in this particular case?

Q. Yes.

A. No, I haven't examined the flue dust in this plant. I have examined simply the dust on the plants at the Pista orchard.

Q. In other words, your analysis of the dust will be confined solely to what you found on the Pista ranch, not what came out of the stack in this particular case. Mr. Naus made some suggestion that you were denied entrance. You were never denied entrance into that plant, were you?

A. Well, I might explain that. They wanted to get just a sample of the ore to determine [124] there the relative proportion of calcium and magnesium carbonates. And the foreman at the plant

(Testimony of F. E. Twining.)

did not feel that he should grant permission. It didn't come—I don't think it came from the city office. I am perfectly satisfied I could have got permission to go in any part of the plant, so far as that is concerned.

Q. In other words, the man in charge didn't feel that it was within his authority to grant?

A. No. I can see his point. It was perfectly OK.

Q. Did you take any of the material from around the plant or from the quarry? A. Yes.

Q. You took some material, so-called dolomite, from the quarry, did you not?

A. Some that dropped off the trucks.

Q. Off the trucks?

A. I imagine so. It was——

Q. Did you take any material from the plant itself after it had been calcined or anything of that sort? A. Not the plant itself.

Q. In other words, your knowledge of this is as you took the raw material from the trucks from where it had been quarried, and as it landed on the Pista orchard; am I correct?

A. This particular sample was to not go out to see just what the ore was; I have already examined ore from that particular quarry in the past, and in fact I have done more or less work for the Permanente Company.

Q. What I mean is this: that in the plant itself or immediately [125] when the dust left the plant,

(Testimony of F. E. Twining.)

you made no chemical analysis or samples of that particular dust? A. No, no.

Q. In other words, the two that you have taken have been at the quarry and on the Pista ranch?

A. Just simply a sample of the raw dolomite and the deposited material on these plants.

Q. I believe in your analysis you show that the dolomite consists of calcium carbonate to the extent of about 56 per cent or a little over?

A. In that sample, yes.

Q. And magnesium carbonate to the extent of 43 per cent, or a total, roughly of pretty close to 100 per cent? A. That's right.

Q. Now, will you look at your notes and tell us what the percentage was of the dust that you found on the Pista orchard—I mean the percentage of calcium and magnesium oxide or carbonate, or whatever it might be—your analysis of that dust that you found on that orchard?

A. The orchard at what time?

Q. Well, let's see. When did you take your first sample there?

A. The first sample on the orchard was taken on March 14.

Q. That is 1944?

A. Right. That is the first sample that I took.

Q. You took none in '43? A. No.

Q. Were there samples sent to you in '43?

A. Yes; that is, samples sent to me in '44 that were taken in '43.

(Testimony of F. E. Twining.)

Q. That is embodied in page 4 of Exhibit 5, is it not?

A. The samples sent me of the foliage, you mean—those leaves?

Q. Yes. A. No. [126]

Q. What page it is?

A. The analyses of that are not in this report.

Q. Have you an analysis of it?

A. I think that we have some analyses of it, but they are not made as complete, because we did not take the samples ourselves; we just simply—

Q. What analysis have you?

A. I have analyses of all the materials that we took.

Q. No; but have you an analysis of those that were taken—samples that were taken in '43?

A. That was simply to determine as to whether it was dolomite or not, and we didn't make quite as elaborate a test as shown in these tables. I might state that this material on Exhibit 4, page 3, with the exception of sample No. 3, was practically all '43.

Q. Let me ask you, so I can try to get this thing clear: Of the soil or leaves or dolomite or whatever it might be, what was the first analysis that you made? I mean, when did this thing first come to your attention?

A. It first came to my attention in December of 1942.

Q. December of 1942? A. Yes.

(Testimony of F. E. Twining.)

Q. In what way did that come to your attention?

A. Sample of leaves were mailed us to determine what that white deposit was on them.

Q. Who mailed that?

A. I think a fellow by the name of McDonald mailed them.

Q. Have you his communication?

A. I have just a letter. [127]

Q. May I see it?

A. A copy of a letter (handing paper to counsel).

Mr. Naus: May I glance at it, Mr. Moore?

Mr. Moore: Oh, surely.

Mr. Naus: Go right ahead. Don't let me stop you.

Mr. Moore: I thought you had seen it.

Mr. Naus: No, I haven't seen it.

Mr. Moore: Q. Mr. Twining, you have handed me a copy of a letter apparently addressed by your organization to Mr. McDonald at Watsonville, but in that letter you refer to a letter of December 10 from Mr. McDonald. Will you look at your file and see if you can discover the letter of December 16.

A. Well, that was his letter relative to—I don't happen to have a copy with me, but the letter referred to some other analyses we made for him on other substances, and then he also called attention to the fact that he was mailing these leaves from the Pista orchard. Now, this is an answer that we made to him.

(Testimony of F. E. Twining.)

The Court: Q. Where is the original letter, if you have it?

A. The original letter is probably in our files.

Mr. Moore: Q. Who is Mr. McDonald, do you know?

A. He is a fertilizer dealer in Watsonville.

Q. What did he send you in connection with the letter of December 10, 1942?

A. We handle a great deal of work for Mr. McDonald, soils, fertilizers, and things of that sort.

Q. Well, I mean——

A. Of course, one thing that he referred to was these leaves that he was sending. And in this letter we speak of something on some olive pulp that he sent. There was an examination made for its fertilizer value. And then we also speak of the deposit on the leaves.

Q. Did you make an analysis of the deposit on the leaves that Mr. McDonald sent you?

A. Yes.

Q. Have you that analysis? A. No.

Q. Well, didn't you keep a copy of it?

A. There is probably a copy in our files, but at the time I didn't think it would ever enter this case at all.

Q. Maybe I am in error, but were these leaves that were sent by Mr. Pista or from the Pista ranch?

A. The leaves that Mr. Pista sent to us were later. He sent those himself direct.

Q. Well, what I am trying to find out is, you

(Testimony of F. E. Twining.)

have referred to December 1942 and that Mr. McDonald sent you certain samples and leaves and one thing and another. Were they from the Pista ranch? A. That is what he said.

Q. Have you that analysis?

A. It would be probably in our files.

Q. But you haven't it here in court?

A. I haven't it with me.

Q. That was the first time that this Pista dust was called to your attention, is that correct?

A. The leaves were sent to determine what was on them, that is all.

Q. And you haven't that analysis with you?

A. No. [129]

Q. Now, when was the next time?

A. The next time was the samples that I took myself on the 14th of March.

Q. That is '44? A. '44, yes.

Q. So the first time that you had any direct connection with the Pista ranch was in March of 1944, is that correct?

A. Personal connection, yes.

Q. And did you visit the Pista ranch on that occasion? A. Yes.

Q. And did you take the leaves off?

A. Yes. Well, the leaves—the leaves I took were oak leaves and citrus leaves. The apricot leaves were not very far advanced—the buds, and so on.

Q. Well, how advanced were they?

(Testimony of F. E. Twining.)

A. Well, there wasn't enough foliage there for me to determine. And another thing, they had been sprayed with a lime-copper spray which would give me a higher percentage of lime than would be deposited there.

Q. That is what is commonly referred to as a Bordeaux mixture? A. Right.

Q. They had been sprayed with a Bordeaux mixture which contained lime, is that correct?

A. That is, had been sprayed with a Bordeaux mixture.

Q. Did you take any leaves off the apricot trees at that time? A. No.

Q. You took leaves off of what type of tree?

A. Took it off oak trees and citrus trees, and took some of the weeds along the little stream.

Q. Have you any of those that you took?

A. No, they were all used up.

Q. They were used up. Except from what people told you, you don't know how long a period had passed in which any deposit was made on these leaves, is that correct?

A. Well, of course, on the weeds the deposit was made this year, because it was new growth. Now, on the others the deposit was unquestionably a carry-over.

Q. What distinction did you find between the deposit on the weeds and the other types that were carry-overs? A. In quantity?

Q. Both in quantity and thickness and in any way?

(Testimony of F. E. Twining.)

A. The quantity on the weeds was very small, as I gave the figures this morning. There was almost 50 times as much on the oak twigs and leaves as there was on these weeds.

Q. Fifty times? A. Yes.

Q. How old were the weeds?

A. Well, I don't know. They were this year's crop of weeds.

Q. What I am trying to find out. Mr. Twining, is this: The length of time of the deposit on the weeds as compared to the length of time of the deposit on the oak leaves.

A. On the weeds it couldn't have been only a matter of a very, very few weeks, whereas on the oak leaves it might run over—well, it would be probably over a year anyway.

Q. It would be practically ever since the plant started operation?

A. Undoubtedly a small part of it was right from the [131] first time any dust was deposited.

Q. In other words, on the oak leaves it would be an accumulation from the beginning of the deposit of dust? A. Yes.

Q. And on the weeds it would be a deposit simply from the time that they had leafed out, is that correct? A. Right.

Q. You say fifty times as much. Have you some figures there as to that?

A. Just offhand. Here the figures on the weeds are .09—that is .09 of 1 percent.

Q. What are you reading from?

(Testimony of F. E. Twining.)

A. That is the total deposit on the vegetation.

The Court: He wants to know what you are reading from.

A. I am reading from page 3 of Exhibit 4, I think. That would be column 3, are the weeds. The total percent of deposit on the weeds was .09, and it runs on the other—runs from 1.71 up to 4 percent. I just took the figures—4 percent would be not quite fifty times as much as on the weeds.

Mr. Moore: I may say, your Honor, that the witness is referring to Plaintiff's Exhibit 6, page 3. That is correct?

The Witness: On what?

Mr. Moore: Q. Page 3?

A. It is page 3.

Mr. Naus: Page 3, Exhibit 4.

The Witness: On 4.

Mr. Moore: No; pardon me. [132]

Mr. Naus: Mr. Moore, here is what happened; I might explain that. Page 3 of Exhibit 4 is identical with the original exhibit 6, because there are just two pages of that letter admitted as Exhibit 4 marked separately. When the whole document came in later without objection it took a separate number covering the whole. So this is page 3 of Exhibit 4.

Mr. Moore: It didn't come in without objection.

Mr. Naus: I won't dispute with you as to how it came in. The record speaks for itself. I stand on the record.

(Testimony of F. E. Twining.)

Mr. Moore: The conclusions were objected to the analytical portion is admitted.

Mr. Naus: The record is self-explanatory about it and I don't think it needs discussion.

Mr. Moore: We are in perfect agreement.

Q. Now, if you will turn there—you found the total weight of calcium carbonate, CaCO_3 , grams on the oak leaves .514, is that correct?

A. Well, the total weight of calcium carbonate in grams on the amount of material was .015. That is on the weeds. Which one do you want now?

Q. No; I was talking about the column as to oak leaves, column 1.

A. Column 1 is .514.

Q. And column 2, citrus leaves, .109, is that correct?

A. That is right.

Q. And column 3, weeds, .015?

A. Yes.

Q. And on oak twigs and leaves, the large sample, 1.432, is that [133] correct?

A. Yes.

Q. These were gathered by yourself on what date?

A. March 14th.

Q. 1944?

A. Yes.

Q. Let me ask you this: The weeds were of that year's growth so they only had on them the deposit for 1944, is that true?

A. Yes.

Q. Item 1, the oak leaves, how about them?

A. Well, that is a deposit that had been on there—at least it was a carry-over from the year be-

(Testimony of F. E. Twining.)

fore; maybe a little bit previous to that,—subject, however, to some being washed off during the rainy season through the winter.

Q. And column 2, citrus leaves—how about their character or the dust on them?

A. The total percent was 1.71. That was around in front of the house, more or less protected.

Q. Mr. Twining, what I am trying to get, you have analyzed this in four columns.

A. Yes.

Q. No. 1 being oak leaves, small sample; No. 2, citrus leaves; No. 3, weeds, Wong Creek north of house; No. 4, oak twigs and leaves. What I want to ask you, so I get these four columns correct, which ones had the deposit for 1944 and which had the accumulation of deposits for previous year?

A. Just the one sample, weeds, was new growth. The others were old samples.

Q. In other words, column 3, which is the weeds, were the new growth? A. Yes. [134]

Q. And they would indicate the 1944 deposit?

A. Yes.

Q. Now, going down you found calcium carbonate, CaCO_3 as part of this deposit, did you?

A. Yes.

Q. Now you found—I am following you down—magnesium carbonate, MgCO_3 —you found that as a part of this deposit, is that correct?

A. Yes.

Q. Then you found some silica?

A. Yes.

(Testimony of F. E. Twining.)

Q. That was in rather minor quantity, was it not?

A. Well, I might say the idea of getting the silica and so on and so on was to see approximately how much road dust there might be in it, or other dust. The magnesium and calcium would indicate the dolomitic material.

Q. Then you found a certain amount of iron and alumina? A. Yes.

Q. That was in rather minor quantities?

A. Yes.

Q. So if I get your report correctly, from the analysis of this dust that you found on the leaves there it consisted of calcium carbonate, magnesium carbonate, and a small amount of silica and a small amount of iron and alumina, is that correct?

A. That's right.

Q. You say there: "The lime and magnesia"—referring to a portion of your report—"are deposited as oxides but gradually form carbonates when exposed to the air." A. Yes.

Q. What do you mean by "oxides"?

A. Well, it is—it wouldn't all be oxides when it came out of the flue stack, but a good [135] part of it. That is calcined material. Now, exposed to the air it absorbs carbon dioxide and reverts.

Q. May I ask you to take that blackboard again a moment? I think you said that when it came out of the stack it comes out with carbon dioxide and calcium oxide and magnesium oxide. Now,

(Testimony of F. E. Twining.)

when you speak of oxide you refer to calcium and magnesium oxide, is that correct?

A. That is right.

Q. Now, will you show the court what happens chemically, how these oxides are converted into carbonates?

A. It is a reversion process (writing on blackboard).

The Court: What is that? I didn't follow him.

A. There is a certain amount of carbon dioxide in the atmosphere; there is a certain amount given off from plants. Now, when this oxide is deposited or goes into the air or on the ground, it takes up some of this carbonate and reverts back to its original condition as a carbonate.

Mr. Moore: Q. In other words, if you followed the double entry system of bookkeeping that chemists use, when you get calcium oxide and carbon dioxide, what is the other side of the ledger?

A. Well, it is a proposition here by heat we drive off this gas. The oxides have an affinity for carbon dioxide. Therefore, they will take it up if there is any present, which there is in the atmosphere, and they revert back to their original condition of magnesium and calcium carbonates.

Q. In other words, when this calcium oxide and magnesium oxide [136] is exposed to the air they pick up carbon dioxide, is that correct?

A. Right.

Q. And they reconvert themselves, if we may

(Testimony of F. E. Twining.)

use that term, into calcium carbonates and magnesium carbonates? A. That is right.

Q. In other words, they become dolomite again, is that correct?

A. Well, yes. The exact proportion may not be the same as the original. It depends a little on how they are deposited, but it goes back. It is dolomite.

Q. As a matter of fact, dolomite varies?

A. Oh, yes.

Q. In the percentage of magnesium carbonates?

A. Yes.

Q. And calcium carbonates that go to make it?

A. We can get limestone with very little magnesia in it; we can get dolomitic limestone and dolomite. Then we can get magnesite with certain—more or less lime in it.

Q. But, to put it in a very general way, from a scientific standpoint this dust which is calcium and magnesium oxide picks up carbon dioxide and reconverts itself into dolomite?

A. In picking up your carbon dioxide it really acts something like a cement and forms this incrustation which is more or less permanent. It doesn't wash off like ordinary dust.

Q. You are referring to this deposit on the trees? A. On anything.

Q. On anything. Let me ask you in connection with that, Is dolomite a fairly common deposit found throughout the country? [137]

(Testimony of F. E. Twining.)

A. There is quite a few deposits in California. Of course, we get good and bad deposits.

Q. It varies; I mean, it has other minerals mixed with it? A. Decidedly.

Q. And silica and things?

A. We get lime——

Q. It is commonly referred to as limestone, is it not?

A. Well, limestone itself, if we want a perfectly good limeston we don't—it depends on how it is going to be used; we don't want very much magnesia in it. If we can get magnesium carbonate without any lime, it would be worth while, too.

Q. You mean in this present day?

A. Yes, sir.

Q. On the development of new materials, that a straight magnesium oxide—a mountain of that would be very valuable, wouldn't it?

A. That is right.

Q. One of the problems that they are having in the manufacture of magnesium is to get rid of the calcium, isn't that true?

A. That is one of the problems for certain purposes, yes; in fact, most purposes.

Q. Most soil has limestone in it or dolomite, hasn't it?

A. Well, we find lime and magnesia in most soils.

Q. It is known as one of the nutrient elements of soil? A. Yes.

(Testimony of F. E. Twining.)

Q. Commonly referred to, there are about six, are there not—potassium, magnesium, and calcium——

A. Well, magnesium and calcium are acquired; they are generally what we generally call soil amendments, but there is a certain percentage [138] absolutely necessary.

Q. Take that vicinity in and about Salinas there; isn't most of that soil in there more or less impregnated with calcium and magnesium?

A. We find soils that are more or less heavy in them, but there is many, many soils—we handle thousands of them from the Salinas district that we recommend the application of gypsum. That is calcium sulphate.

Q. You recommend that they——

A. Have some lime added.

Q. —be treated with lime? A. Yes.

Q. In other words, from an agricultural standpoint, you always have the variation depending upon the plant life that is expected to be grown, between what are commonly called alkali soils and acid soils; is that correct?

A. Yes. For acid soils there would be no question about its application. On alkaline soils, why, we get—we very often recommend lime, although lime itself is alkaline earth, because we get less toxicity in mass action. The lime assists——

Q. All through that country down there, particularly around Salinas, it is more or less predominantly alkaline soil, isn't it?

(Testimony of F. E. Twining.)

A. Oh, there is lots of good soil, and there is some bad.

Q. I mean by that——

A. It all has an alkaline reaction.

Q. It all has an alkaline reaction?

A. Most of the soils in California have.

Q. Where you get an acid condition, it is usually caused by [139] heavy liquidity, the alkali is leached out of the soil, is that so?

A. I recommend it for a soil where there is a slight acid or where they are heavy type soils, I have recommended lots of that Salinas beet sugar lime.

Q. Let me ask you this: This Bordeaux mixture, that is a lime deposit, isn't it?

A. It is a lime-copper combination.

Q. I was going to ask that in just a moment. You heard the testimony this morning about the usual consistency of Bordeaux mixture of lime and copper sulphate, where they have five parts of lime, five parts of copper sulphate with fifty parts of water——

Mr. Naus: Fifty gallons of water.

Mr. Moore: Fifty gallons. Thank you.

Q. Cutting out the water for the moment, the H_2O , will you write down the chemical formula for Bordeaux mixture? Or, include the water, too.

A. The Bordeaux mixture is rather a complex mixture. I don't know that I could give an exact formula from memory. When you have 92 elements and their various combinations of millions

(Testimony of F. E. Twining.)

of different substances, it is pretty hard to remember all these things.

Q. Aside from the minor items, let us try to get the major items.

A. Well, for instance, copper sulphate—I have forgotten the exact atomic weight of copper. “Cu” is the term for copper, and sulphate would be SO_4 . I would have to make that X, because I am not sure. You combine that with lime—would be a—— [140]

The Court: Q. Do you call that lime or lime sulphur?

A. In this particular case it is a copper sulphate with lime in this Bordeaux mixture.

Q. Where did I get the Bordeaux mixture as lime and sulphur?

A. Well, lime and sulphur mixture is a little different from the Bordeaux, the one using calcium hydroxide. The calcium hydroxide added to copper sulphate then forms the various compounds which produces your Bordeaux mixture. Now, your other mixture is lime and sulphur; it hasn't any copper in it, unless it happens to have some put in.

Mr. Moore: Did your Honor desire——

The Court: No, I was talking of my own limited knowledge of this field of chemistry and my experience with it, and I just had something in mind. Proceed.

(Testimony of F. E. Twining.)

Mr. Moore: Q. The calcium hydroxide there, that is calcium, water, and what else?

A. Well, calcium——

Q. H_2O is water, isn't it?

A. Yes. It would start out with calcium oxide.

Q. Yes.

A. You add water to it. Therefore, you have got CaH_2O taken twice, you have got to add——

Q. In other words, you have two parts of water to one part of calcium oxide, is that correct?

A. Yes.

Q. That is known as calcium hydroxide?

A. That is right.

Q. Let us reduce that to the terms that we common people know. What is that known as—slacked or unslaked lime? [141]

A. Slacked lime or hydrated lime.

Q. In other words, the water in there slakes the lime, is that correct? A. Yes.

Q. When these dusts go through the air they pick up water, too, don't they? A. Yes.

Q. And they become calcium hydroxide, do they not?

A. Your lime—both your lime and magnesium will pick up some moisture, and therefore they will carbonate quicker.

Q. In other words, calcium hydroxide is also known as calcium carbonate, is that correct?

A. No.

Q. No, I am wrong; I beg your pardon. But

(Testimony of F. E. Twining.)

calcium oxide will pick up H_2O from air, will it not?

A. It has a great affinity for water. A little moisture is picked up, and it unites with the carbon dioxide a little quicker if it is slightly moist.

Q. In other words, the dust that comes out of the stacks will pick up water out of the air and become slaked lime?

A. Yes. That is still caustic.

Q. What is?

A. Slaked lime is still caustic.

Q. I am going to come to the causticity of this later. What I am getting at now: Does that pick up H_2O out of the air and become slaked?

A. If there is any moisture in the air.

Q. Of course, it all depends upon the amount of moisture that is in the air and the amount of time that it is exposed to the action of the air, is that correct?

A. That is right.

Q. In other words, let me ask you, would it become slaked more [142] quickly than in a dry air with no moisture?

A. Yes.

Q. So, the length of time it takes to change from a slaked to an unslaked lime, if you term it that, is dependent upon weather conditions?

A. Yes, the time would be—would depend on that.

Q. Now, isn't it true that in Bordeaux mixture you do use unslaked lime at times?

A. Yes.

Q. In other words, trees are sprayed with unslaked lime, is that correct?

(Testimony of F. E. Twining.)

A. Well, of course, when you make your mixture, you usually get a combination. You get more reaction from unslaked lime than you will from slaked lime.

Q. The Bordeaux mixture is used for the purpose of killing bugs, if we may term them that, or fungus, isn't that true? A. Yes.

Q. It is the unslaked causticity of the application that has its effect on that fungus growth?

A. Yes.

Q. In other words, you are not using a dead instrument, if we might call it that: you are using a live instrument with causticity in it to kill the bugs or fungus? A. That is right.

Q. So, isn't it a fact that usually with a Bordeaux mixture it is fundamentally unslaked lime when it is sprayed on the trees?

A. Bordeaux mixture is caustic.

Q. It is caustic? A. Yes.

Q. Fundamentally, from a chemical standpoint, the calcium dust [143] or the magnesium dust or the combination of it that comes from these stacks, is very—practically identical with the calcium that is contained in Bordeaux mixture, is it not?

A. No, I wouldn't say that.

Q. Where does the difference lie?

A. I would say a dust from your—the flue dust is a little more caustic than it is in Bordeaux.

Q. You would say what?

A. It is more caustic.

(Testimony of F. E. Twining.)

Q. Let's get into that now. What element is there in there that is the creation of the causticity?

A. Well, in one case it is lime; in the other it is lime and magnesium.

Q. Is it the metal itself, or is it the oxygen or hydrogen or just a mixture?

A. It is what we would term a salt of the metal.

Q. Let me withdraw the question or change it. By "causticity," I wonder if you and I are thinking along the same lines. What is your meaning of causticity?

A. Well, I possibly might explain it as an alkaline——

Q. What is the element that causes causticity, or how do you judge causticity?

A. Well, of course, we have a method of measuring that by what we might term the P.H.—hydrogen potential; but the causticity would depend entirely upon the purity of your calcium oxide or magnesium oxide. If it is absolutely pure it would be more caustic than if——

Q. I think you and I are talking at different purposes. P.H. is [144] usually applied to the determination or to the causticity or acidity of soil. I am talking about causticity in its general sense rather than applied to soil. But as I understand causticity—and correct me if I am wrong—it means the element that will consume or burn up matter.

A. Causticity—you might define it that way. I might explain it, on your Alpha lines, or materials,

(Testimony of F. E. Twining.)

there are what we call basic materials, and they will unite with the acid materials, and if we get a proper amount of acid basic materials we will get a neutral salt. And one proposition about a caustic—a mixture of we will say a dolomitic material or lime material or magnesium material—, it is slightly alkaline and unites with the acids secreted by the—in a pistil—that is, the stigma, and if it neutralizes it, then you prevent fertilization. That is the proposition.

Q. I am going back to the fundamental question which I am trying to get at, the causticity. Will you give us a definition of what is causticity?

A. Well, causticity would be—I might give a definition, when it attacks certain materials. We know it generally as something that actually attacks or eats other tissues.

Q. Bordeaux mixture has causticity, has it not?

A. It has some, yes.

Q. The very purpose of using it is to kill fungus and growths of that kind, is it not?

A. Absolutely. Your copper also has [145] an antiseptic effect—that is, a toxic effect, rather.

Q. Are “toxic” and “caustic” synonymous?

A. No.

Q. Or are they different terms?

A. No, they are different terms.

Q. But the calcium hydroxide that is in the Bordeaux mixture has causticity, has it not?

A. Well, a Bordeaux mixture—I have seen some

(Testimony of F. E. Twining.)

that were practically neutral, and others that were rather caustic.

Q. Well, the purpose of using a spray is to have a caustic spray, is it not?

A. Well, generally, although your copper will do some of the work.

Q. Would you say that calcium carbonate was alkaline?

A. Calcium carbonate is what we would term an alkaline earth.

Q. Is that caustic? A. No.

Q. That is neutral, is it not?

A. Neutral, yes.

Q. In other words, what comes out of this——

A. I would have to explain that further, because if you add it to any acid——

Mr. Moore: Pardon me. I didn't get that. Would you read it. Mr. Reporter.

(Answer read as far as given.)

A. Then you—most acids are stronger than the carbon dioxide, and you will convert it into another salt, and you——

Mr. Moore: Q. I asked you—maybe I didn't follow you—calcium hydroxide is neutral, is it not?

A. Yes—no, not calcium hydroxide. [146]

Q. Calcium carbonate is?

A. Calcium carbonate is supposed to be neutral, yes.

Q. Calcium oxide has a certain amount of caustic character, has it? A. Yes.

(Testimony of F. E. Twining.)

Q. Now, you were talking about the fertilization a few moments ago wherein this pollinization or fertilization was interfered with by reason or an alkali deposit.

A. The neutralization of the acid deposit of the stigma.

Q. Well, getting down to what I might term the sex life of an apricot, the acid condition of the stigma there is an acid condition, is that correct?

A. That is right. There is an acid secretion.

Q. And the pollinization is an alkali deposit, is that correct, or am I in error?

A. No; pollinization of course is prevented by the neutralization of that acid secretion.

Q. In other words, if that acid secretion is turned to an alkali, in your opinion it will prevent pollinization, is that correct?

A. I couldn't say it had to be turned into an alkali, but if it is neutralized. In other words, the dusting of any alkaline earth on a blossom at a certain time will prevent the setting of fruit, no question about that.

Q. In 1943 you don't know what happened down there on that Pista ranch from your own knowledge?

A. I wasn't there.

Q. You never saw it until——

A. I possibly have seen it, because I have been by that territory. [147]

Q. I mean, you never examined it?

A. Not to know it, no.

(Testimony of F. E. Twining.)

Q. And the first time you came in contact with that ranch was in '44?

A. Personal contact, yes.

Q. Now, in 1944 how many times did you visit it?

A. There were three trips made to that orchard.

Q. When was the first one?

A. March 14.

Q. When was the second? A. June 22.

Q. What was the condition of that orchard on your first visit insofar as buds were concerned and the apparent yield?

A. The orchard was in bloom. I didn't make any careful examination at the time, because it would be the wrong time to determine whether there was anything there. As I say, it had been sprayed. I knew there was lime present, so I didn't take any samples.

Q. It had been sprayed? A. Yes.

Q. With Bordeaux mixture? A. Yes.

Q. And did it give the evidence of a good yield at that time?

A. Well, it was in bloom. The bloom was pretty good.

Q. Did you examine the orchard carefully?

A. I just walked through it.

Q. With Mr. Pista? A. He was along, yes.

Q. Who else was along?

A. I had my son with me, and I think a son of Mr. Pista, and Mr. Harrington, were all there.

(Testimony of F. E. Twining.)

Q. And you looked the orchard over pretty carefully, didn't you?

A. I went through it. I just made a casual examination. [148]

Q. Was there a good bloom at that time?

A. Pretty good bloom.

Q. Did you see any evidence of the dust at that time? A. Yes.

Q. Will you describe as carefully as you can to his Honor just what you saw there with respect to the dust.

A. I have got the figures to show just exactly how much dust had been deposited on the new vegetation.

Q. Will you give us that figure.

A. That is in column 3, page 3, Exhibit 4.

Q. Now, you say there was—that is column 3?

A. Column 3, yes.

Q. You say "Weight of sample, grams, 27.2."

A. That's right.

Q. Will you tell us just what you mean by that?

A. Well, that is the weight of the sample that was examined. It weight 27.2 grams.

Q. What did you do to come to that determination?

A. We weighed it. The sample was taken to the laboratory and weighed in order to get the weight.

The Court: Q. What does that consist of? Give us some idea.

(Testimony of F. E. Twining.)

A. That was some weeds that were growing along this little stream, and was the principal foliage there was in the orchard.

Q. That is new growth?

A. That was new growth.

The Court: All right, proceed.

Mr. Moore: Q. And all of these figures in column described the result of your analysis of those samples you took [149] from the weeds, is that correct? A. That is right.

Q. By the way, was that a wet or dry weight when you speak of grams?

A. It was a partially dry.

Q. It was what? A. Partially dried.

Q. Personally? A. Partially.

The Court: Partially dried.

Mr. Moore: Q. Partially. Can you explain that in a little more detail?

A. Of course, the examination was not made immediately, and there was a certain amount of drying of the leaves due to that. I might explain that further so there would be no—this deposit, by being put in ordinary water, doesn't wash off well, so it was put in acidulated water.

Q. Pardon me. Put in what?

A. Acidulated water—water with some acid in it to dissolve the lime and magnesia compound.

Q. And that was the process you used in making these figures? A. In all of these, yes.

Q. Did you examine the apricot trees on that visit?

(Testimony of F. E. Twining.)

A. No—that is, just went through the orchard and looked at them.

Q. Did you notice whether there was dust on them?

A. Well, as I say, they had been sprayed, and of course they had a deposit on them, and I knew that that would interfere with the actual deposit in this particular case.

Mr. Moore: I am going to ask that that portion be stricken as not responsive. You did observe dust on the trees? [150]

A. I observed a coating on the trees.

Q. How about the leaves?

A. Well, the leaves had not developed very much.

Q. Were there any buds out at all?

A. Oh, yes.

Q. Were there any deposits on the buds?

A. I didn't examine them. None that I could see visually. I know that was very small.

Q. If you didn't examine it how did you know that it was small?

A. Well, I examined—I looked at it.

Q. Was there or was there not dust on the leaves?

A. Not that was perceptible to the naked eye.

Q. Let me ask you, You found dust on these weeds, is that correct? A. Yes.

Q. How do you account for the fact——

A. The weeds were probably several weeks old.

Q. When did you visit the orchard again ?

(Testimony of F. E. Twining.)

A. The next visit to the orchard was made on June 22.

Q. That is 1944? A. Yes.

Q. What was the condition then, Mr. Twining, of the orchard so far as dust was concerned?

A. There was some dust on the leaves and the apricots. That is shown in the figures on page 4 of your Exhibit 5.

Q. Did you notice the trees at that time and the apricots that were growing on them?

A. Well, I noticed that there was a pretty good crop on them. [151]

Q. A pretty good crop? A. Yes.

Q. Did you know or had you been informed as to whether or not there had been any thinning process carried on? A. No.

Q. Between your two visits? A. No.

Q. You never asked about that? A. No.

Q. Would it surprise you that on one tree they had taken off over 6,000 apricots in the thinning process in the early part of May?

A. Well, I am not surprised at anything any more.

Q. What?

A. I am not surprised at anything any more. I hear a good many stories. I suppose that is—

Q. You never examined that orchard in the spring of 1944 to determine whether or not it had a good yield or a poor yield?

A. I stated that it looked good to me.

Q. It looked good to you? A. Yes.

(Testimony of F. E. Twining.)

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A. I stated that it looked good to me.

Q. It looked good to you? A. Yes.

(Testimony of F. E. Twining.)

Q. Well, in your opinion, did any deposit of dust in 1944 in any way affect the yield or the pollinization of that crop of apricots on the Pista ranch? A. Apparently not to any extent.

Q. Not to any extent? A. No.

Q. In 1944, is that correct?

A. That's right.

Q. But it is your opinion that it did affect it in '43, is that true?

A. Well, in taking the total amount of material and figuring that that was deposited in '43, I know that that material will cause some damage. Now, I didn't check up on the bloom or the dropping of fruit, so I can just give it as an opinion. [152]

Q. In other words, you are calculating from the result to the cause rather than from the cause to the result, is that right?

A. I am calculating from the cause, yes.

Q. Now, might it not be possible that in 1943 that a short crop was due to other elements or factors rather than the dust from this—

A. Well, taking into the case this particular case—taking into consideration and knowing there was a short crop, I still think it was shorter than it should have been.

Q. But you never saw the trees; you don't know anything about it? A. Not at that time.

Q. Let me ask you something: Have you ever been employed by Mr. Pista before in your life?

A. Not that I know of.

Q. Not in 1938? A. No.

(Testimony of F. E. Twining.)

Q. You weren't employed in any way in regard to a suit that he filed for damages to his orchard?

A. No, sir.

Mr. Moore: Might we have a recess, your Honor?

The Court: Certainly.

(Recess.) [153]

Mr. Moore: If your Honor please, with Mr. Naus' consent I am offering now in evidence Defendant's Exhibit A, which has been marked for identification, which is a flow sheet of this entire process of making magnesium, and in that connection photographs 1, 2, and 3 have to do with the process at Natividad outside of Salinas, and the balance has to do with the pictures of the processes at Moss Landing and at Permanente.

Mr. Naus: That is correct. Steps 1, 2, and 3 in the flow are all that occurred in this plant down near the Pista orchard.

(The document was thereupon received in evidence and marked "Defendants' Exhibit A.")

Mr. Moore: Q. Mr. Twining, let me ask you, you say that in your opinion if it had not been for this deposit of dust in 1943 that the yield of the Pista orchard would be seven, eight, or nine times greater than it was; am I making a correct statement of your testimony?

A. No, I do not want it as a direct statement. If it had not been for this dust, I give it as an opinion that this dust affected it, and taking some other

(Testimony of F. E. Twining.)

things into consideration, he should have had a crop of, I would say, eight times what he did.

Mr. Moore: Will you read the last part of that answer?

(Record read.)

The Witness: I would not specify exactly what he should have had, but I am just stating what he should have had under [154] varying conditions.

Mr. Moore: Q. What other things did you take into consideration?

A. Well, the general conditions during the year, and assuming the climatic conditions, the cultivation and so on, were properly handled.

Q. I don't quite understand you—the climatic conditions were properly handled.

A. Well, not being there, you might have had a snowstorm in the first of April, or a heavy frost, or something of that sort. I practically know that he did not, but I say those things might happen.

Q. Let me ask you something: You were employed by Mr. Pista when? In 1944?

A. Well, it was—I can't remember. I may have a letter to show when I was first asked to come and make an examination. I know at the time I was ill I did not get over there as early as I expected. It was either the early part of this year or the latter part of last year.

Q. In your investigation did you get any weather reports?

A. You have the complete reports that I made.

Q. Will you kindly turn to them so we can refer to them? A. Exhibits 4 and 5.

(Testimony of F. E. Twining.)

Mr. Naus: I do not think the parties understand each other. Mr. Moore sort of dropped his voice when he said the word "weather." I do not think the witness heard him say that.

Mr. Moore: I will repeat the question.

Q. In your investigation of the short crop on the Pista orchard, [155] did you get any weather reports?

A. I did not investigate the weather reports from that particular district, no.

Q. Before you came on the stand today as a witness in this case, have you ever had the reports from the United States Weather Bureau relative to the rainfall or the temperature in that district in the period of pollinization?

A. I would state that I have those reports, but I did not read them.

Q. You have never read them?

A. No, we received them down there.

Q. You don't know what the weather conditions were in or about Natividad in the spring of 1943?

A. Only on the particular days I was there, on March 13th and 14th.

Q. That is 1944, is it not? A. Yes.

Q. I am referring now to 1943.

A. I don't know. I made a good many trips over to Salinas in 1943, the winter of 1942-1943, and the summer of 1943, but off-hand I do not know just what the weather was.

Q. You have never studied those weather records? A. No.

(Testimony of F. E. Twining.)

Q. You know, do you not, that throughout the State of California in 1943 there was a short crop in apricots? A. Yes, I know that.

Q. Did you ever have occasion in your profession to study the cause of the short crop throughout California in 1943?

A. Our work is devoted specifically to some particular place. For instance, we do work for a great many—— [156]

Q. Let us restrict ourselves to the matter of apricots.

Mr. Naus: He said to some particular place. Your question takes in the whole State of California.

Mr. Moore: I am going to narrow it down.

Q. Let us narrow it to the question of apricots. In any particular area did you ever have occasion to study the cause of the short crop in 1943?

A. In this way: In 1943 we had occasion to examine, oh, I would say several thousand soils in Monterey County, and some of them were of apricot orchards that did not produce well, that we had to examine the soils to see if they had anything to do with it.

Q. I am not asking you about soil examination. I am restricting my question solely to the question of a short apricot crop in 1943.

A. Generally, I did not investigate to see why it was.

Q. Did you investigate with respect to any particular area where there was a short crop?

(Testimony of F. E. Twining.)

A. Only on soil conditions.

Q. What is that?

A. Only on soil conditions.

Q. You made no investigation or study of any kind, character or description relative to the effect of a particular weather, climatic conditions that occurred in 1943, so far as it affected the apricot crop, is that correct?

A. That is pretty general. I might say "No" to that question, because I made no specific examinations based on that.

Q. You do know that there was a short crop?

A. Yes. [157]

Q. Did you make any investigation as to the cause of that short crop throughout the——

A. As I say, only soil conditions for some individuals.

Mr. Moore: I think that is all, you Honor.

Redirect Examination

Mr. Naus: Q. Mr. Twining, you were asked about the spraying of Bordeaux mixture on apricot trees. Is it the practice to spray the Bordeaux mixture on the trees during blossom time, or before or after blossom time?

A. They use some care to prevent the spray getting into the blossoms at blossom time, yes, unless it is absolutely necessary, and then it is used very dilute.

Q. Does the spraying of Bordeaux mixture in what you have described as a very dilute mixture,

(Testimony of F. E. Twining.)

if done during blossom time, have any effect on pollinization or fertilization?

A. The lime in the spray might affect the pollinization.

Q. Does it prevent pollinization to the extent of preventing the set of a crop?

A. If it is in sufficient quantity it would.

Q. Pardon me?

A. If in sufficient quantity it would, yes.

Q. If in——

A. If in sufficient quantity.

Q. Take the quantities that we have been discussing here.

A. It would have to get in the blossoms and on the pistils.

Q. Take the quantities that have been mentioned here as being a mixture of 5-5-50. Is that a sufficient quantity?

A. Well, sprayed right into the blossom at the proper time it would cause trouble. [158]

Q. Is it the practice in spraying Bordeaux mixture in apricot orchards to spray it on in a general way as to interfere with pollinization?

A. No.

Mr. Moore: Wait a minute.

Mr. Naus: Is that a general request or a command to halt, or is it an objection?

Mr. Moore: I intended to make an objection but I was too late.

Mr. Naus: Perhaps I had better pass to another question.

Mr. Moore: Very well.

(Testimony of F. E. Twining.)

Mr. Naus: Q. Now, this dust that came out of the stack, wafted through the air, and settled down on the Pista orchard in the quantities that your analyses of the 1933 samples showed, was that in sufficient quantity to definitely prevent fertilization or pollinization?

Mr. Moore: Wait a minute. I am going to object that that. I would like to have the question read first, your Honor.

(Question read.)

Mr. Moore: I object to it, your Honor, as a hypothetical question, no foundation in fact having been laid, because I do not know that this witness has testified in the slightest way to the amount of dust deposited in 1943 during the period of pollinization, and I therefore think the question is objectionable.

Mr. Naus: If the Court please, I do not understand that a [159] land owner or a farmer has to be defeated in the case unless he has a scientist or an army of them sitting out in his orchard during a particular period, blossom time or otherwise, and I certainly have laid all the foundation in this case that could conceivably be laid. We definitely connected the dust that settled on the orchard with something that came out of that stack, and there are samples of the vegetation in here, as to which there is an analysis of the quantity, and I am directing it to that part of the record from the standpoint of quantity, which the cross-examination did not quite reach into in trying to compare Bordeaux

(Testimony of F. E. Twining.)

mixture with this dust, and I am trying to compare the chemical ingredients of the Bordeaux mixture with the quantity of other ingredients in the dust to see if one would and the other would or would not prevent fertilization or pollinization.

Mr. Moore: My objection, your Honor, goes to the fact that there has been no foundation laid in fact for this question. This witness was not present during the period of pollinization, blooming. He has not introduced any evidence, whatsoever of the amount of dust deposited at that time, or the character of the dust deposited at that time. He does say that there were some leaves sent him, and that a year afterwards, in 1944, when they had a large crop, in the period which would be very close to the period of pollinization he was present on the ground down there and observed it. But there is absolutely no [160] evidence of the amount of dust which was deposited in February and March of 1943, and that is the question that is asked.

I also object to it on the ground that it is not proper redirect examination. I did not go into that question on cross-examination.

Mr. Naus: If the Court please, so far as improper redirect is concerned, the cross-examination, as near as I could discover a point in it, assuming one, was trying to suggest that the chemical ingredients of the dust corresponded in a general rough way to the chemical ingredients of a Bordeaux mixture. That leaves untouched the question of quantity. I have already asked the witness the quantity

(Testimony of F. E. Twining.)

in this 5-5-50 mixture, which is spoken of as very dilute. I am now addressing the question to the other branch, that is, the analysis of this material deposited in March, 1943.

The Court: The objection goes to the failure of a proper foundation being laid, namely, this witness on the stand was not there during the period of pollinization. No. 1. No. 2, that the quantity of dust from his examinations during that period was what?

Mr. Naus: That is in the reports, in the exhibits shown here. That shows specifically the quantity.

The Court: Maybe in the interest of time I will allow the question to be asked. It goes to the weight of the testimony.

(Addressing the witness:) Do you understand the question? [161]

The Witness: Will you read the question?

(Question read.)

The Witness: I would state that if deposited in that ratio through the year it would cause considerable trouble.

Mr. Naus: That is all.

Recross-Examination

Mr. Moore: Q. You say if deposited during the year would cause considerable trouble. Do you know the amount of dust that was deposited on this property in the month of February, 1943? A. No.

Q. Do you know the amount of dust that was deposited in the month of March, 1943?

(Testimony of F. E. Twining.)

A. No.

Q. Do you know the amount of dust that was deposited in April, 1943? A. No.

Q. Do you know if during those three months this plant, Permanente plant, was in constant operation.

A. That would be a question that I would have to base the other answers on. If I knew just exactly how they ran through those months I might give you an estimate of how much was deposited.

Q. In other words, your answer is purely a guess, am I right?

A. If that was deposited uniformly throughout the year there was unquestionably some damage at the blossom time.

Q. Do you know that the blossoms bloomed down there in three cycles?

A. I know how those things generally happen, yes.

Q. Do you know what happened in 1943?

A. No—you mean so far [162] as the bloom is concerned?

Q. So far as the blooms were concerned and the crop was concerned.

A. I imagine it was in the usual manner.

Q. Do you know that they bloomed for eighteen days? A. That is what I heard.

Q. Do you know that they bloomed in three cycles? A. I heard that stated.

Q. Did you ever hear it before today or yesterday?

(Testimony of F. E. Twining.)

A. Oh, yes—not a time, but I have know it to bloom in three cycles.

Q. Do you know that the buds or the young apri-cots, rather—the buds—dropped off from the first bloom on practically all the ranches in Monterey County?

A. I do not know that, no.

Q. You heard it yesterday, did you not?

A. That is all, just hearsay.

Q. What you know about the Pista ranch is also hearsay, isn't it?

A. As to 1943, yes, outside of those examinations.

Mr. Moore: That is all.

Mr. Naus: No further questions.

The Court: Step down.

Mr. Naus: Is Mr. Twining excused from further attendance, your Honor, or not?

Mr. Moore: I beg your pardon. I did not hear you, Mr. Naus.

Mr. Naus: I was asking his Honor if Mr. Twining is excused from further attendance. [163]

Mr. Moore: Oh, yes.

LOUIS PISTA,

called as a witness by the plaintiff; sworn.

The Clerk: Q. What is your name?

A. Louis Pista.

Direct Examination

Mr. Naus: Q. Mr. Pista, you are the son of B.

(Testimony of Louis Pista.)

Pista, who has already appeared as a witness in this case and who is one of the plaintiffs? A. Yes.

Q. Your age is what? A. 32.

Q. I believe the accounting records of your father respect to this apricot orchard, such records as there are, are kept by you, is that correct?

A. No, I only had a year and a half, is all.

Q. When?

A. I would say 1939 and 1940, and, of course—the latter part of 1939 and 1940.

Q. In the year 1943 did you or not visit the apricot orchard? A. No.

Q. So you know nothing personally or first-hand knowledge about that? A. No.

Q. At the time of the deposition you produced the account books for Mr. Moore to assist your father in going over the records. Do you recall that?

A. Yes.

Q. You brought them here at my request, have you? A. Yes.

Q. Can you produce from your father's records any accounts or [164] records, whatever, that show what apricots were sold from the orchard in 1943, to whom, what date, on what day, the price, and so on? A. Yes. I have that right here.

Mr. Naus: Do you wish to examine that, Mr. Moore?

Mr. Moore: No, no.

The Court: Q. That is, in relation to these apricots? A. Yes.

Mr. Naus: The 27 tons I am speaking of.

(Testimony of Louis Pista.)

The Court: Is there any question about the 27 tons?

Mr. Moore: I do not think so, your Honor, no.

Mr. Naus: Your Honor will recall at the time his father was being examined I suggested the young man could give that detail more quickly, more easily and better than his father.

Mr. Moore: I think we may be able to stipulate to that. We have had no question as to that, and it is in the deposition.

Mr. Naus: I would like, if the Court please, to have the witness state the quantity, the selling price per pound or per box, to whom sold, and the dates, to have a simple, short, clear-cut record here.

A. This is Los Angeles.

The Court: Raise your voice so the reporter can hear you.

The Witness: This is Los Angeles, which is on a per-pound basis. On July 3, 1943, Anshin Produce Company, received 40 lugs of apricots. 17 were sold at 11 cents and 23 lugs 10 cents. [165]

Mr. Naus: Q. Before going on, a lug is how many pounds? A. You mean the wood?

Q. Apricots.

A. Well, 26½ to 27 pounds net, that is, of the fruit.

Q. Proceed with the next one.

A. This is Anchin, also: July 7, 38 lugs. Total shipment. 10 were sold at 12 cents, 15 at 11, and 13 at 7.

And this is another merchant, commission merchant, Shapiro Produce Company, and this is on

(Testimony of Louis Pista.)

July 3rd. He received 85 lugs, 69 lugs at 11 cents, 16 10 cents——

Q. Those cents you are speaking of are per pound, are they?

A. Per pound, yes. And on July 6th he received 82 lugs. 66 lugs were sold at 12 cents and 16 at 11. July 7th he received 80 lugs. 17 lugs were sold at 12 cents, 21 lugs at 11, and 22 lugs at 10 cents, and 10 boxes were sold at a dollar apiece.

July 8th, 82 lugs. 4 lugs were sold at 12 cents, 17 10 cents, 42 11 cents, 3 nine cents, 6 five cents, and 10 boxes were lost.

This is a broker, William Pulisevich.

Q. Los Angeles, or San Francisco?

A. Los Angeles. July 2nd he received 151 lugs total. 26 lugs sold at 12 cents, 22 at 11, 74 10, 10 lugs at 9, 15 lugs 8, and 4 lugs he has here "one," but I imagine it is lost.

July 3, 128 lugs. 42 at 12 cents, 85 11, and one at 8.

The Court: I do not think there is any point in going into [166] the detail of this.

Mr. Naus: If counsel will concede that the remainder of the sale was substantially on the same basis I will pass it up.

Mr. Moore: I think a very much simpler way is this: We have taken Mr. Pista's deposition. He has had a chance to read it and sign it. In it we went into the detail of all of those sales.

Mr. Naus: Mr. Moore, I am suggesting I want to go at it in this way as part of the evidence in this

(Testimony of Louis Pista.)

case. I am willing to adopt his Honor's suggestion and discontinue if it can be understood or if everybody is satisfied that the remainder would be in substantially the same order.

The Court: Oh, yes.

Mr. Naus: I think it is. You may cross-examine.

Mr. Moore: We have no questions.

Mr. Naus: The plaintiffs rest.

Mr. Moore: I will call Dr. Duschak.

L. H. DUSCHAK,

called as a witness by Defendant; sworn.

The Clerk: Q. Your name is——

A. L. H. Duschak.

Direct Examination

Mr. Moore: Q. What business are you in?

A. At the present time I am professor of metallurgy in the University of California, and consulting engineer. [167]

Q. Will you kindly tell the Court your professional and educational background?

A. I graduated in 1904 from the University of Michigan, having majored in chemistry. I received the master of arts and Ph. D. at Princeton University in 1908, having majored in chemistry. I taught chemistry for some two years at Princeton University. I was employed for some four years by the Corning Glass Works, as a chemical engi-

(Testimony of L. H. Duschak.)

neer, and then from 1913 to 1921 I was employed by the United States Bureau of Mines as a chemical engineer located here in San Francisco, working for several years with Dr. F. E. Cottrell, who is the inventor of the Cottrell process for collecting dust and fumes. From 1921 to 1938 I practiced as a consulting chemical and metallurgical engineer in San Francisco. In the spring of 1938 I was appointed professor of metallurgy in the University of California.

During my work for the United States Bureau of Mines, and during my consulting practice later, which extends up to the present time, I have had occasion to investigate a number of dust and fume situations related to various industrial plants.

Q. Have you had occasion in that connection to investigate the effect of dust relative to vegetation and the growth of trees, and the matter of agriculture, generally?

A. Only in a rather general sort of way. My interest in the dust has been more particularly with regard to its generation in the plants and its behavior as it escaped from the plant, and the way it dis- [168] tributed itself beyond the plant. I am not particularly experienced as an agricultural engineer.

Q. But you have had occasion along the lines you just mentioned in making investigations?

A. Yes, because in connection with making studies of the smelter fume behavior, as well as the behavior of dust from cement plants, and other dust-

(Testimony of L. H. Duschak.)

producing plants, I have had to consider the effect of dust on various types of plant growth.

Q. Can you tell us in a little more detail what particular instances on which you had occasion to make these studies? I do not mean to go into the detail of cases or things of that sort of the problem, but just a little more detail than you have given.

A. My first contact with this dust and fume problem was in connection with studies of so-called smelter smoke, smelter-fume damage, particularly relating to the conditions around the Selby smelter around the Bay, here. And also, to a lesser degree, the Anaconda smelter in the State of Montana, smelters in the vicinity of the Great Salt Lake, and after that I made studies—in fact, a number of studies—related to the dust problem of the Cowell-Portland Cement Company at Cowell, the dust problem at the United States Lime Products Corporation at Sonora, California, and the Permanente Cement Plant at Permanente, and then recently the Natividad of the Permanente Company.

Q. Doctor, referring to the Permanente plant at Natividad and the manufacture of magnesium, have you been employed by the [169] Permanente concern?

A. Yes, I have.

Q. When did you enter their employ, or when did you first have contact with them relative to employment?

A. My first contact with them was in the spring of 1939. That related to the proposal to construct a cement plant at Permanente, and since that time

(Testimony of L. H. Duschak.)

I have been consulted by them off and on in regard to a number of their operations.

Q. When you say a number of their operations, does that include the manufacture of magnesium metal? A. Yes.

Q. I have dissociated for just a moment this particular dust problem that we have here, but I mean in a general way have you acted as a consulting engineer with regard to the manufacture of magnesium by permanente? A. Yes.

Q. And many matters connected in an advisory capacity, is that correct?

A. Yes. My most extensive work for them was in connection with the early development of this so-called Hansgird, or carbo-thermic process, which is practiced at Permanente.

Q. You are familiar, are you, Doctor, with this carbo-thermic process of magnesium?

A. Yes, I am familiar with that process.

Q. You have gone through the struggles of this Permanente plant, or you are familiar with all the details, are you? A. Reasonably so, yes.

Mr. Naus: Wait a minute. You can't say he has gone through them all until the Pista case is finished, at least?

Mr. Moore: I mean up to the present moment, Mr. Naus. [170]

Mr. Naus: Pardon me. I will accept the correction.

Mr. Moore: Q. I am going to call your attention, Doctor, to an exhibit which has been intro-

(Testimony of L. H. Duschak.)

duced here as Defendant's Exhibit A, and ask you to examine that——

The Court: Directing his attention to one, two or three?

Mr. Moore: Q. (Continuing): ——directing your attention to 1, 2 and 3, and also the balance, your Honor, but particularly with respect to 1, 2 and 3, which are the plant at Natividad. Will you explain to his Honor the process of the manufacture, if we can term it that, of the magnesium oxide and calcium oxide that are shipped over to Moss Landing—I mean including the quarrying and the chemical reactions that take place.

Mr. Naus: Aren't you assuming that this calcine was the product?

Mr. Moore: I will admit I am leading a little bit.

Mr. Naus: Perhaps he will say those are the products. I don't know.

Mr. Moore: I will reframe the question if you object, but I think the doctor can talk for himself on that subject.

Mr. Naus: All right.

Mr. Moore: Q. Will you explain the process without my——

A. Referring to this flow sheet——

The Court: Come up here, gentlemen, if you want to look at it.

Mr. Naus: I have read that. I can follow it from here. [171]

(Testimony of L. H. Duschak.)

The Witness: The illustration No. 1 shows a power shovel digging broken dolomite in the quarry and loading it into a truck. This truck delivers the dolomite to a crushing plant, which is shown below in the diagram. The crushed dolomite is then taken to the calcining plant, which consists of two rotary kilns with the suitable appurtenances. This crushed dolomite is fed into these rotary kilns and is there heated to a high temperature by the use of either natural gas or oil fuel. The rotary kilns and the stacks from which the gases of the kilns are discharged is shown in illustration 2.

Illustration 3 shows the loading of a truck from one of the storage bins, loading it with the calcine dolomite for delivery to Moss Landing, or to Manteca, or possibly to some other point of consumption.

Q. Doctor, what is the chemical composition of this dolomite that has been referred to? Can you tell us?

A. Dolomite is a mineral which consists essentially of equal molecular quantities of calcium carbonate and magnesium carbonate. If I might refer to this writing made by Mr. Twining on the board, this first item in the circle, here, reading CaCO_3 , MgCO_3 bracketed—that describes the composition of what we might call theoretically pierre dolomite. Sometimes there is a little excess of magnesium carbonate or an excess of calcium carbonate. The composition is not absolutely fixed, that is, there is quite a range of composition of materials [172] which would all be classed as dolomite, and then in

(Testimony of L. H. Duschak.)

addition to these two essential constituents we are apt to find small amounts of so-called impurities, such as silica, iron compounds, and aluminum compounds, and possibly other substances in a small amount.

Mr. Moore: I have quite a number of photographs here. I have extra copies.

Mr. Naus: I will take a look at them if you wish.

Mr. Moore: Q. Doctor, I am handing you some photographs here. Would you pick out the photographs of the plant at Natividad? I have others in there and I know that you are familiar with it.

Mr. Naus: If you have a lot of photographs of the Natividad plant, Courtney, will you pick out some with the wind blowing over toward the orchard?

Mr. Moore: Oh, yes, I have got all kinds. We have, which I will give to Mr. Naus, two photographs, your Honor, of the Natividad portion of this process, which we will offer in evidence.

Mr. Naus: Counsel has handed me two photographs. I will accept——

Mr. Moore: Pardon me, three, Mr. Naus. Here is just the truck up in the mine.

Mr. Naus: This is not the truck, the shovel.

Mr. Moore: There are more than that. Of two of them I [173] had extra copies made, and of the others I had no additional copies, so there are about five photographs, your Honor, of the plant there.

Mr. Naus: Let me have all five and I will give

(Testimony of L. H. Duschak.)

you a consent or a stipulation as to them. There are six.

Are these the six you want to use?

Mr. Moore: Yes.

Mr. Naus: I think they are all true depictions of what they purport to show, if the Court please. I simply request if possible—I do not insist upon it—that as to each one counsel merely state his understanding of the date or approximate date each one was taken.

The Court: Approximately, if you know.

Mr. Naus: I do not press him. I do not want to take time, but if he knows it will help. Mark them separately and then as to any that you do know, give the date.

Mr. Moore: I would rather ask the doctor, because some of them were produced by himself. I will state as to the others, the Permanente have a photographic department, your Honor, where they take photographs, and I got some of those——

Mr. Naus: Mr. Moore, there is no question but they are all true photographs, because I have been down there and seen it. I waive foundation, but I would like to know the dates.

The Witness: I might say that I personally have no knowledge of the taking of these photographs at all. I could only [174] judge by my knowledge of the date when the plant was under construction, when the construction was completed, and when it went into operation. I notice one photograph here

(Testimony of L. H. Duschak.)

has what I think is the date on it—2/25/44. It follows some identification numbers.

Mr. Moore: Let us take this one. We will have it marked. What is the next number?

The Clerk: Defendant's Exhibit B.

(The photograph was marked Defendant's Exhibit B in evidence.)

The Court: Q. You are prepared to testify that these photographs depict what they purport to show?

A. Yes, these are correct representations of the Natividad.

The Court: Is that satisfactory?

Mr. Naus: Yes, your Honor, but any depiction of the plat down there would be a different depiction each day. That is all I have in mind. I do not press or insist upon it. I would like to have it if convenient, that is all. I make no objection to the photographs being received.

Mr. Moore: I do not offer them for the purpose of showing the condition on any particular day, but a general depiction of the operations there.

Mr. Naus: If they are simply descriptive or illustrative of the plant, of course, there could be no objection, but if they depict any time, any month or year or anything of that sort, that is another matter. [175]

Mr. Moore: They do not purport to.

The Court: Q. About how many people are employed there? Do you know?

(Testimony of L. H. Duschak.)

A. I don't know exactly. Several dozen I should say, just by what I have seen.

Mr. Moore: We will offer these photographs in evidence and ask that they be marked with the appropriate mark.

The Court: Let them be admitted and marked.

(The photographs in question were received in evidence and marked Defendant's Exhibits C, D, E, F, and G, respectively.)

Mr. Moore: Q. Doctor, will you describe to his Honor the chemical reaction or process that takes place when this dolomite ore is crushed and then put into the kilns under this temperature?

A. Yes, the operation is a very simple one. The crushed dolomite is heated by an intensely hot flame.

Q. Can you give us approximately the heat that it is heated to?

A. Heated to a temperature of twelve or thirteen hundred centigrade; that for the purpose of decomposing the dolomite, driving out the carbon dioxide and leaving behind the so-called calcine dolomite, which consists of a mixture of calcium and magnesium oxides together with the small amounts of impurities present.

Q. What is left behind is magnesium oxide and calcium oxide, is that correct?

A. That is the main product of the kiln, the product which is sought in the operation, a mixture of calcium and magnesium oxide with a small amount of impurities.

(Testimony of L. H. Duschak.)

Q. What becomes of the carbon dioxide?

A. That carbon dioxide [176] which is expelled from the dolomite on heating, together with the carbon dioxide from the combustion of the carbonaceous materials and the fuel used, pass up the stack together with the nitrogen which accompanies the oxygen used in burning the fuel.

Q. In the course of this trial there has been reference to dust. That dust comes from what source?

A. That dust is picked up by the stream of hot gas flowing through the kiln.

Q. And it goes where?

A. And it is carried along by the gas stream out through the so-called kiln housing, and since the Cottress precipitator has been installed it passes through that; most of the dust is collected there. What is not collected passes on to the stack. A small amount will collect in the base of the stack, but a further small amount is carried up through the stack by the gas stream and discharged into the atmosphere.

Q. And what is that dust? What is its chemical composition as it is discharged into the atmosphere.

A. That is a somewhat difficult question to answer. That is to say, the only way in which a precise answer could be obtained would be by collecting a sample of this material just as it escapes from the stack.

Q. Pardon me. May I interrupt for a minute? Approximately how tall are the stacks?

(Testimony of L. H. Duschak.)

A. These stacks are approximately 200 feet tall.

Q. If you will proceed, please.

A. I have taken some samples at an elevation of about 100 feet, and I haven't with me at the moment the complete analyses of these samples, but I may say in general they will show the dust consists to a large extent of calcium and magnesium carbonate with a small amount of calcium and magnesium oxides and, of course, the traces of impurities.

I might explain further that this dust is material which is picked up throughout the length of each of the kilns. There are two kilns there. Their operation is in general identical. So that we will find the dust not consisting of a single material, but consisting of particles of entirely unchanged dolomite, the dolomite particles which have experienced slight calcination on the surface, and finally the particles which have been quite completely calcined. In other words, the dust, in a sense, represents a sort of average sample of the material which is in the kiln at any given time, ranging all the way from the raw material at the one end to the completely calcined material at the other. [178]

Q. You say you took samples about a hundred feet up the chimney?

A. About halfway up the stack.

Q. As that dust or gas, dust in gaseous form, passes up the chimney what chemical reaction takes places, if any, in your opinion, as it proceeds?

(Testimony of L. H. Duschak.)

A. The chemical decomposition process which took place in the kiln begins to reverse itself as soon as the dust particles are removed from the high temperature zone. Calcium carbonate cannot be decomposed. Below a temperature of 900°C . magnesium carbonate—which is a bright red heat. I might say—magnesium carbonate cannot be decomposed below a temperature of about 700°C . That is a moderate red heat. As soon as these calcine particles which contain magnesium carbonate and oxides pass to the point in the kiln where the temperature is below these levels, and in the presence of the kiln atmosphere containing both the carbon dioxide and the moisture, these oxide particles will begin to recombine with the carbon dioxide, and that process goes on progressively as the dust particles are carried through the flue system, up the stack, and continue out in the atmosphere.

Q. When they come into the atmosphere does their contact with the air also have some effect on the chemical characteristics of these dust particles?

A. This process of carbonation, as it might be called—that is, a conversion of the oxides into carbonates—it will go on continuously while the dust particles are in contact with the atmosphere, for the reason [179] that the atmosphere contains a small amount of carbon dioxide and also contains moisture, which tends to catalyze or speed up this reaction.

Q. Eventually these dust particles which were

(Testimony of L. H. Duschak.)

originally oxides are, through contact with the air and with the carbon dioxide therein, and water, H_2O , converted into what, Doctor?

A. They become converted into calcium and magnesium carbonates. That is, chemically they become the same as the original calcine dolomite.

Q. In other words, eventually they become the same as the dolomite that is mined out of the quarry, is that it? A. Yes.

The Court: Q. In its original state?

A. Not quite, because dolomite has a characteristic crystalline structure, and these little particles, when they are recarbonated, will not resume that crystal structure. There is that physical difference, but no chemical difference.

Mr. Moore: Q. Doctor, following up this process at the Natividad plant which you have described, after this dolomite has been put in the kilns and heated, resulting in I believe you said magnesium oxide and calcium oxide—that is correct, isn't it? A. Yes, that is correct.

Q. (continuing) —what is the next step in the process of making magnesium metal?

A. One plan consists in transferring this calcine dolomite to Moss Landing.

Mr. Naus: If the Court please, again are you interested [180] in anything after the operation ceased at Natividad? Do we need to go down to Moss Landing to find what dust came from the stack?

(Testimony of L. H. Duschak.)

Mr. Moore: No, but that is only one step in this operation.

Mr. Naus: While it would be an interesting thing for one to read in the evening——

The Court: What relation has any activity at Moss Landing?

Mr. Moore: There is an injunction relief asked here, your Honor, involving the war effort, the mining of this ore, and the calcine at Natividad is the initial step in the process in which there has been investment somewhere between 25 and 30 million dollars. It gives employment to a large number of people. It is a war effort, and we propose to prove under the direct authority of the War Department. It is a very definite matter connected with the proposed injunctive relief. It gives employment to a great many people. It has a part in the future industrial life of the western part of the United States. We propose to prove that this plant, which is the initial step—it follows three steps: one at Natividad, and then at Moss Landing, where it is mixed with sea water, and then to Permanente, which is outside of Saratoga or in that neighborhood,—that involves a process by which vital materials are being produced that are not only essential in war, to carry on the present war, but will become of vital importance in the future [181] industrial life of California. This material that is developed will be used in the manufacture of rayon, in the manufacture of steel, in the manufacture of synthetic rubber, in the manufac-

(Testimony of L. H. Duschak.)

ture of refractory bricks; that if we expect to have an industrial empire of the western part of the United States it is essential that this particular plant be not closed down by reason of Mr. Pista having 50 acres of apricots there.

The Court: I take it that counsel will stipulate with you on the statement you just made.

Mr. Naus: Not to the whole, but I will go this far: I really do not think that we need to study the chemical changes or transformations of dolomite down around Moss Landing. It is utterly unrelated to what he is talking about.

The Court: Unrelated to his injunction?

Mr. Naus: Yes. So far as the war effort is concerned, that is a function of the Federal Government, and I have yet to hear that the Federal Government is powerless, if it wishes to act on its own, to condemn apricot orchards or anything else it needs for that war effort. So far as the development of the West is concerned, I presume Mr. Pista and his family are just as much interested as these people in that question. But so far as the development of Butte, for example, and Anaconda, that development was not at the price of ruin to the farmers of the neighborhood. There were other ways of reaching that [182] which are still going on. The mere fact that someone wishes to do business on a large scale does not mean we have to destroy an orchard in the process. If the Secretary of War thinks this apricot orchard or the destruction of it is necessary to the war effort, all he has

(Testimony of L. H. Duschak.)

to do is file a declaration of taking in this court through Mr. Bourquin. There are ways of going about that.

Getting back to the objection, while I am delighted to listen to the dissertation of the doctor on the stand, I would rather sit around leisurely at home some evening, perhaps having a lemondade or something, and read it at leisure. I could pursue it there much better.

The Court: Going back to my first inquiry, in the interest of time I thought perhaps you would stipulate.

Mr. Naus: I will stipulate to this: that the end product of the process that begins up in that dolomite quarry on the hill at Natividad ends up in a metal that is used in the war, and undoubtedly vital to the war effort. How it goes, chemically and otherwise, to reach that stage, I do not know and I do not care about at this time.

Mr. Moore: I think we do care, and I think the Federal Government cares, and I believe everybody interested does care, whether Mr. Naus happens to care, and Mr. Pista, or not. We feel, your Honor, that this is one of those cases where there should be a full exploitation of the facts showing the justice [183] of a request for injunctive relief. Now, if Mr. Naus wants to stipulate and agree that he asks no injunctive relief, we are satisfied.

Mr. Naus: I will not stipulate to that.

Mr. Moore: What is that?

(Testimony of L. H. Duschak.)

Mr. Naus: I certainly will not stipulate to that. I told you at the beginning I was not going to take up the time of the Court on an application for a temporary injunction, with all that entailed, but I have never at any time surrendered the right to ask for an injunction on the final hearing, which we have now reached. We will not waive that.

Mr. Moore: I talked to Mr. Naus some time ago, your Honor, and I am in——

The Court: If you give me an opportunity here, I think I can be helpful. Counsel is entitled to a record when injunctive relief is asked.

Mr. Naus: Yes.

The Court: But I can't see any reason why in the interest of time counsel on both sides cannot get together and get a stipulation for the purpose of the record of the factual situation that you expect to prove. Is there any doubt about that?

Mr. Naus: I haven't any doubt after this product leaves, in whatever form it does leave Natividad, that it continues through a transformation until it finally reaches a form of metal vital and useful to the war, but what happens to it—[184] that is to say, how it is transformed after it leaves Natividad, the industrial processes, the changes, and the activities it goes through to reach that form of metal, I do not think that we need spend any time on in this case.

The Court: I suggest we go along and meet that situation. You counsel get together. If there is any question about it you may renew your offer.

(Testimony of L. H. Duschak.)

Mr. Moore: I would like to, your Honor. It is so hard and so difficult for me to even start to get a statement of facts, because I have only talked somewhat casually to people who are familiar with the many and varied uses that this metal and its by-products could be put to in the industrial life of America.

The Court: I do not think there is any question about it. I think you can get a stipulation as to that.

Mr. Moore: My position is I am willing to stipulate to everything I can think of with Dr. Duschak and other people dictating as to the uses it could be put to and the process there is involved here. There is involved, as I say, 20 or 30 million dollars. Your Honor asked how many people were employed there in the Natividad plant. Dr. Duschak said several dozen, but there are some 750 or a thousand employed elsewhere that are absolutely dependent upon this.

I realize in California the general rule of the State courts here has been the matter of the balance of convenience. [185] The balance of equities has not been applied, but it is a sort of an antiquated doctrine that has been disregarded and turned down by most of the States of the Union and by the Federal courts, and the matter of the balance of equities here as a war industry and a peace industry that is essential to the future of the West as against forty or fifty acres of apricots, we feel we should have a record here on that.

(Testimony of L. H. Duschak.)

The Court: There is no answer to that. You are entitled to a record, and you should have it.

Mr. Naus: We are both entitled to a record.

The Court: Counsel can see that, but I thought possibly the things you were seeking to prove here, you and counsel could get together and stipulate so far as you can, and on the matters you cannot agree on, develop that.

Mr. Naus: May I see that Defendant's Exhibit A, Mr. Welsh, for a moment?

If the Court please, I did not get a chance to read this until noon. It was not in my hands during the trial this morning. I think Exhibit A seems to give the whole story in a condensed form. The matter that he is seeking a prolixing or elaboration of through the witness is set forth here. I will stipulate everything said on this Exhibit A is true, and it seems to me that covers the whole story. What more could be added, I do not know, outside of words—words.

Mr. Moore: I am glad to accept the stipulation.

Mr. Naus: Pardon me?

Mr. Moore: We are glad to accept the stipulation. I would like to look it over and determine whether I want to add anything or not.

The Court: I will take an adjournment. We won't get through with this witness today. You and counsel get together and go as far as you can on any stipulation you wish to enter into.

Mr. Naus: I would invite your Honor's atten-

(Testimony of L. H. Duschak.)

tion over the recess to that, if you have an opportunity to look at it, to glance through the text, so that you will get the full effect and significance of the stipulation, and you will find I have covered everything that he is apparently attempting to cover in minute detail with the witness. It covers all the ultimate facts that he is reaching for.

The Court: We will take an adjournment until tomorrow morning at ten o'clock.

The Witness: I was about to remark that while counsel were arguing I could have told you the whole story and a little more.

The Court: I think so, too, but there are certain rules here we have to follow that even to experienced men like yourself it is hard to understand.

(Thereupon an adjournment was taken until tomorrow, Thursday, September 14, 1944, at 10:00 a.m.) [187]

Thursday, September 14, 1944
10:00 O'Clock A.M.

The Court: Pista vs. Permanente Metals Corporation.

Mr. Moore: Ready.

Mr. Naus: Ready.

Mr. Moore: Following your Honor's suggestion, Mr. Naus and I conferred and I think we are in perfect agreement that we cannot agree, so I might

state our position. That is a fundamental statement, is it not, Mr. Naus?

Mr. Naus: We ceratinly have not agreed. We have made no progress. As a matter of fact, I do not even know what specific facts they want me to agree to.

The Court: Legally, he is entitled to make a showing.

Mr. Naus: He is entitled to make a showing or an offer of proof, one or the other, depending on your ruling.

L. H. DUSCHAK,

recalled;

Direct Examination—(resumed)

Mr. Moore: Q. Doctor, I believe you stated that after the calcine process is completed at Natividad, the result is a product of MgO and $CaCO_3$, calcium oxide and magnesium oxide, is that correct?

A. Yes, sir.

Q. From your knowledge, what does this particular product look like, may I ask you?

A. It is a white granular material, chalky in appearance. [188]

Q. And what is done with that, may I ask you?

Mr. Naus: Objected to as immaterial, what is done with it after the process is completed at Natividad.

The Court: On the matter of injunctive relief he is entitled to make a showing.

Mr. Naus: I was merely making an objection for the record.

(Testimony of L. H. Duschak.)

Mr. Moore: I would stipulate that your objection runs to this entire line of examination.

Mr. Naus: If the Court wishes to accept such a stipulation, that is to say, I do not like to be popping up making objections right along; I simply take the position that after the product leaves that neighborhood where the apricot orchard is and goes down to Moss Landing, Saratoga, or elsewhere, questions with respect to such other processes are immaterial to the issues in this case.

The Court: It would be immaterial if it were not for the relief asked here.

Mr. Naus: I understand, if the Court please. So his Honor and counsel on both sides are in agreement that I have made the point and I will remain silent so as not to interrupt the trial.

The Court: Let the record show there is an objection running to this line of testimony.

The Witness: This calcine material is taken to Moss Landing, is mixed with water to form a slurry, and there added [189] in the correct proportion to purified sea water which has been pumped from the Monterey Bay. When this calcine material comes in contact with the sea water, various chemical reactions take place which result in the precipitation of magnesium hydroxide.

Mr. Moore: Q. May I ask you this: You are familiar with that operation there?

A. Yes, I am.

Q. Turning to Defendant's Exhibit A, which has been characterized as a flow sheet, or showing

(Testimony of L. H. Duschak.)

the process that has gone on, 1, 2, and 3 on there, the photographs, have been identified as the process at Natividad. Now, what are the photographs or pictures there that have to do with the Moss Landing part of the process?

A. Photograph No. 4 shows the large mains through which the sea water is brought into the Moss Landing plant.

Photograph 5 illustrates two hydro separators. That is a technical name for a tank which is used to separate solids from liquids. These hydro separators are used in connection with the purification of the sea water.

Photograph 6 is entitled, "Thickener tanks, Moss Landing." The one in the foreground is a very large tank in which this precipitation of magnesium hydroxide takes place. The other tanks shown in this photograph are used for the washing of this precipitate, that is, the separating of the soluble sea water constituents from the precipitate of magnesium oxide.

Photograph No. 7 is entitled, "Oliver filters, Moss Landing." This is a type of rotary vacuum filter which is used to recover [190] the magnesium hydroxide precipitate and also to permit its final washing, so that it becomes almost chemically pure magnesium hydroxide.

Photograph 8 illustrates a calcining kiln which is used for heating this precipitate of magnesium hydroxide to the point where the adhering moisture

(Testimony of L. H. Duschak.)

and also the chemically-combined water is driven off and a product of magnesium oxide obtained.

Photograph 9 shows a storage bin in which the calcined magnesium oxide is stored.

It might be mentioned that different temperatures are used in the calcining of this magnesium hydroxide precipitate, depending on the purpose for which the resulting oxide is to be used. In some cases a very high temperature is used and there is obtained a material known as periclase, which is employed in the manufacture of refractory brick, so-called basic refractories which are used in the steel industry. Otherwise, if the material is to be used at Permanente it is heated to a somewhat lower temperature.

Q. Are you then over the temperature?

A. I am still at Moss Landing. I am referring to the variety of products that would be obtained by the calcination of this magnesium hydroxide precipitate.

Q. May I ask you a question, if you will step over here on the blackboard again? Let us get the chemical process that takes place at Moss Landing. There is shipped from Natividad after [191] this calcine process which you described, Doctor, the product there. Will you kindly put on the blackboard what is shipped over from Natividad?

A. Yes. It is essentially MgO , magnesium oxide, and CaO , calcium oxide.

Q. Do you know how that is conveyed over from Natividad to Moss Landing?

(Testimony of L. H. Duschak.)

A. Yes, it is conveyed in large trucks.

Q. I think you did describe it, but if you will redescribe it, how does it appear?

A. It is a white granular material, a rather dull, chalky appearance. It looks not unlike this chalk that I am using for writing on the blackboard.

Q. When that arrives at Moss Landing what is done with it?

A. The first step is to deliver it into a stock bin.

Q. And then what is done?

A. Next is ground and mixed with a portion of the sea water in order to obtain what is known as a slurry to be used in adding this material to the large bulk of water from which the magnesium hydroxide is to be precipitated, or in.

Q. In other words, you mix this product with sea water? A. That is correct.

Q. Will you give us the chemical analysis of the sea water that is used there, as nearly as you can?

A. The principal constituent of sea water is, of course, sodium chloride, common salt, but in addition there is present a small amount of potassium chloride, potassium sulphate, magnesium chloride, a small amount of calcium sulphate, and a number of minor constituents. [192] The thing that we are particularly interested in is the fact that the sea water contains several percent, something between 2 and 3 percent by weight of sodium chloride, and only a fraction of a percent of magnesium chloride. In other words, we are facing the problem of re-

(Testimony of L. H. Duschak.)

covering a minor constituent from a large volume of water.

Mr. Naus: I was going to say, Mr. Moore, I would accept the professor's statement as to the analysis of the sea water, because I am utterly ignorant on the subject, but I must admit that I am perfectly astonished not to hear him mention H_2O .

Mr. Moore: Q. May I ask you, there is H_2O in that combination?

A. Well, of course, the term "sea water" would imply to most people that there was water present; in other words, H_2O .

Q. Is the combination of sea water and the other constituents placed in settling tanks or some kind of tanks?

A. Yes. If I might, I would like to follow through the chemistry of this just a little bit. When these solids, the calcined dolomite, are brought in contact with the sea water—and the same thing would be true if they were brought in contact with any kind of water reasonably clean—a reaction takes place on this sense: Each of these oxides reacts in water, H_2O , to form a corresponding hydroxide. We have for the magnesium oxide, the magnesium hydroxide form, which has the formula $Mg(OH)_2$. Similarly, we have the calcium oxide reacting with water to form calcium hydroxide, $Ca(OH)_2$. Fortunately the magnesium hydroxide [193] is not very soluble with water, so it remains as a precipitate. Calcium hydroxide has an appreciable solubility in water, and it is this cal-

(Testimony of L. H. Duschak.)

cium hydroxide which is available for reacting with the magnesium chloride in the sea water. That chemical change may be expressed by this equation: MgCl_2 plus $\text{Ca}(\text{OH})_2$, will give us calcium chloride, CaCl_2 plus $\text{Mg}(\text{OH})_2$, magnesium hydroxide. The point I am developing is that in this magnesium hydroxide, which is the final product before calcination at Moss Landing, approximately half the magnesium hydroxide precipitated comes from the dolomite and the other half from the magnesium chloride in the sea water. So the calcined dolomite, if you like, serves two purposes: one as a reagent for recovering the magnesium hydroxide from the sea water, and the other as a direct source of magnesium hydroxide.

Q. I have certain photographs here, doctor, that I will ask you to identify if you can. Mr. Naus, I do not know what dates they were taken.

Mr. Naus: Except any photographs at Natividad, I haven't the slightest interest in them, so I won't take the time to look at them. Go ahead and make your record.

Mr. Moore: We offer this then as Defendant's Exhibit next in order.

(The photograph was marked Defendant's Exhibit H in evidence.)

Mr. Naus: Perhaps it would be better to give each one an exhibit letter and state in a word or two just what it is. [194]

(Testimony of L. H. Duschak.)

Mr. Moore: That is what I am going to do.

Q. Doctor, I call your attention to Exhibit H. Will you inform the Court just what that photograph illustrates?

A. This illustrates a number of the tanks, some of them technically known as hydroseparators, others as thickeners, in which this chemical process of bringing about a reaction between the sea water and the calcined slurry at Moss Landing is carried out.

Q. When the sea water and the calcined dolomite arrives there at Moss Landing they are combined and put in these tanks, is that correct?

A. Yes. However, the sea water is first purified by passing through another series of tanks. The tanks in which the sea water are purified are illustrated in this photograph.

Mr. Moore: I will ask that that be marked.

(The photograph was marked Defendant's Exhibit I in evidence.)

Mr. Moore: Q. That is the precipitate drawn from those tanks, is that correct?

A. Yes.

Q. It is put through a heating process?

A. Yes.

Q. And the photograph that I now display to you shows the kilns?

A. Yes. This photograph shows the kiln in which the precipitate is heated and the stack from which a large cloud of steam is escaping. That

(Testimony of L. H. Duschak.)

steam is steam that is driven out of the magnesium hydroxide and dehydrated. [195]

(The photograph was marked Defendant's Exhibit J in evidence.)

Q. In other words, as I understand, just to summarize, Doctor, the process at Moss Landing, the magnesium oxide and calcium oxide manufactured at Natividad is taken over there and mixed with sea water? A. Yes.

Q. And then from that there is a precipitate?

A. Yes.

Q. And that precipitate is then put through a kiln, is that correct? A. That is correct.

Q. Can you tell us approximately the heat that is used there at that kiln?

A. That temperature will vary depending upon the character of the magnesium oxide product which it is desired to produce. For use at Permanente a temperature of eleven to twelve hundred centigrade is adequate. If a so-called dead burnt magnesia, sometimes called dead burnt magnesite, is to be produced, also known as periclase, a higher temperature ranging up to fifteen or sixteen hundred centigrade will be used.

Q. May I ask you, Doctor, as a result of this process at Moss Landing, what is the chemical evidence that is derived?

A. The ultimate product obtained there is MgO , magnesium oxide. These different calcining temperatures do not in any way alter the chemical

(Testimony of L. H. Duschak.)

composition. They simply alter the physical characteristics of the material.

The Court: Without going into these details, wouldn't a general outline be sufficient for all purposes? [196]

Mr. Naus: I have not seen anything added to that Exhibit A so far.

Mr. Moore: I do not like to go too far, your Honor, but the only purpose of it is that eventually I want to show the uses to which this magnesium oxide can be put.

The Court: If counsel does not object we will accept the statement of the witness generally.

Mr. Naus: Subject to the general objection of materiality that I made.

The Court: In fact, if my memory serves me the witness indicated last night out of your hearing, while you were arguing the subject, he should cover the process in every detail.

Mr. Moore: I will accept your Honor's suggestion.

Q. Doctor, would you follow that through Permanente without my questioning you, and tell the Court what occurs through that process?

A. For the purpose of manufacturing metallic magnesium by the carbo-thermic process magnesium oxide is the source of magnesium. The chemistry of this process at Permanente is exceedingly simple. The magnesium oxide is mixed with the correct proportion of white pure carbon, formed into little briquettes and fed into an electric furnace which

(Testimony of L. H. Duschak.)

operates at a temperature of twenty-two to twenty-three hundred centigrade. In that furnace a reaction takes place between the magnesium oxide and carbon, which are both solids, even at this very high temperature, forming magnesium metal vapor [197] and carbon monoxide. This magnesium metal vapor, which is a gas at this high temperature, and the carbon monoxide escape together from this electric furnace and are shock-cooled by injecting a large quantity of cold natural gas. The purpose of the shock-cooling is to prevent this reaction which I have just written from reversing itself, that is, to prevent the carbon monoxide from reacting with the metallic magnesium vapor and again forming magnesium oxide and carbon. Unless these gases are cooled with extreme rapidity that reaction will reverse itself and we will obtain no metallic magnesium.

By this shock-cooking the magnesium metal is precipitated from the form of a gas into a very finely divided solid. This solid is collected by filtering through asbestos bag filters, and then after a certain preparation that may be transferred to a retort in which the magnesium metal is distilled in order to obtain the highly pure magnesium metal from the crude product.

I have mentioned that this first precipitated material obtained by the shock will contain some impurities. I think it might be also mentioned—it is no longer a closely-kept secret—that this precipitated magnesium metal, which is in a state of ex-

(Testimony of L. H. Duschak.)

tremely fine division, has been found exceedingly useful in preparing certain missiles, and a very considerable proportion of the Permanente output, instead of being converted into a solid metal, has been used in preparing some very useful war materials. [198]

Q. May I ask you, Doctor, would it be possible to make the metal magnesium or magnesium oxide that you have referred to at Moss Landing and through Permanente if the process at Salinas were shut down?

A. There are other ways in which magnesium oxide could be obtained for purposes of the Permanente operation.

Q. Will you explain what they might be?

A. One possibility would be to mine magnesite, and it so happens that, so far as I know, the nearest magnesite is over in Nevada. The magnesite would have to be mined. It would have to be put through a milling operation to purify it, and then it would have to be shipped down to Permanente and calcined, and after all that had been done the magnesium oxide would be much less pure than that obtained from Moss Landing, so that the whole carbo-thermic process would not work so well. Its efficiency would be considerably reduced.

Q. Does the carbo-thermic process that is constituted by the Natividad operation, the Moss Landing and Permanente operations, in your opinion, produce a product that has any unusual characteristics?

(Testimony of L. H. Duschak.)

A. Yes. This first crude magnesium oxide dust or powder which is obtained by the shock-cooling is a very unique material. It contains particles of magnesium finer than can be obtained in any other way, and in a particularly reactive form.

Q. Why is that useful or valuable?

A. Because of the speed with which it will burn in contact with the air or enter into [199] other reactions.

Q. Do you know what use to which the products of the Natividad operation, the Moss Landing operation, and the Permanente operation are being put?

A. I know that some of the magnesium is being used in preparing special types of incendiary bombs which are being prepared, I have been told, for use in the Pacific area.

Q. By "Pacific area," you mean the Pacific war area?

A. Yes.

Q. Is magnesium used in airplane manufacture, at all? Do you know that?

A. Yes, metallic magnesium is used to a limited extent in the construction of airplanes, and there is a very persistent effort to increase the amount which is used because of its greater lightness as compared with aluminum.

Q. Greater what?

A. Greater lightness, a lower specific gravity.

Q. Do you know of your own knowledge what percentage or proportion of the products of these plants are being devoted to the war uses today?

A. No, I couldn't say.

(Testimony of L. H. Duschak.)

The Court: Q. Approximately, just in general?

A. All of them, so far as I know.

Mr. Moore: Q. So far as you know, everything that is being produced is being used in the war effort today by the Government, is that correct?

A. Yes.

Q. Doctor, are you familiar with the construction of the Natividad plant? A. Yes.

Q. You made a study of the dust problems there at the time of [200] its construction, did you?

A. No, not at the time that the plant was being designed and constructed. I had some little discussion on that subject, but I was not really asked to go into the dust problem until the plant had been operating for a number of months and a complaint had been received by the plant superintendent from one of the neighbors.

Q. You were called in then on an advisory capacity on that subject, is that correct?

A. Yes, I was asked to go to Natividad and examine the whole operation, the whole situation there, and advise the Permanente Metals Company what should be done, if anything.

The Court: Q. Can you give the date, approximately?

A. It was in November, 1942.

Mr. Moore: Q. When was the plant constructed there?

A. The plant was under construction in the summer of 1942. I worked on certain features of the design during the month of May. I can't state

(Testimony of L. H. Duschak.)

just when it went into operation, but it was sometime between, let us say, the 1st of June and the 1st of October.

Q. And when were you called in on this matter of dust?

A. I can give you the exact date from some notes I made for my records. On November 11, 1942 I visited the Natividad plant for the purpose of going into this dust question.

Mr. Naus: That does not quite answer the question. You asked when he was called upon. He told when he went there. [201]

Mr. Moore: Q. You visited the plant immediately after you were called upon, is that correct?

A. Within a few days, yes.

Q. You made a study and examination *at time*, did you? A. I did, yes.

Q. Will you relate to the Court just what you did?

A. I had not previously seen the plant in operation, so I went through the plant quickly to see in the flesh what I had seen in the drawings, and then with Mr. Garoot, the plant superintendent——

Q. Pardon me for interrupting. Who is Mr. Garoot? Will you tell his Honor who Mr. Garoot is?

A. Mr. Garoot is the superintendent in charge of the Moss Landing and the Natividad operations, an employee of the Permanente corporation. Mr. Garoot took me to visit the Anderson ranch, which is just across the road from the Natividad plant, and then together we went along the Gabilan creek road,

(Testimony of L. H. Duschak.)

pausing now and then to examine vegetation for the presence of dust. We made a number of side excursions on side roads. The general purpose of this trip was to determine the region within which the dust was falling and the extent of the dust fall.

Q. Will you continue and tell us what you did or what occurred?

A. I found that the quantity of dust falling on the Anderson place at that time, and particularly on their vegetable garden, which is close to the house and close to the road, was quite considerable, and I was in full accord with the statement which [202] Mrs. Anderson made to me that certain products of the garden, such as blackberries, raspberries and some other things, were practically unusable because of the quantity of dust that was present on them at that time.

Q. That was in November, 1942, is that correct?

A. That is correct.

Q. Did you examine the Pista ranch at that time?

A. No, I did not go within the gates of the Pista ranch. We drove by it. I remember stopping in the vicinity and looking at the dust deposits on some weeds and other vegetation in the general vicinity.

Q. Will you state as clearly as you can to his Honor just what your observations were?

A. My observation was that there was a very noticeable deposit of dust on the foliage within a mile or two of the plant. I traced that dustfall to a distance of a little over three miles. At that point it

(Testimony of L. H. Duschak.)

was so unappreciable as to be very difficult to recognize. I examined the dust deposit that I observed on foliage at various points and noted a very considerable number of little sparkling particles which were clearly the uncalcined, that is, the raw dolomite.

Q. In other words, merely by visual observation of them you could determine their character, is that correct?

A. Yes, I could determine that many of the particles on the leaves were just raw dolomite dust.

Q. What was your observation as to the balance of the deposit [203] that was on there?

A. The remaining particles were of a dull appearance instead of showing the clear translucence of the dolomite particles and were obviously either partially calcined or completely calcined particles of dolomite.

Q. You made no analysis of that dust at that time, did you?

A. No, I made no attempt to collect any samples or make any analysis.

Q. I mean laboratory analysis? A. No.

Q. What you are stating is merely from your knowledge and your observation? A. Yes.

Q. There has been produced in evidence here, Doctor, an exhibit by Mr. Twining. I think you have had the opportunity of looking this over. I will call your attention to Plaintiff's Exhibit 6, which shows his analysis of various deposits, No.

(Testimony of L. H. Duschak.)

1, 2, 3, and 4, on oak leaves, and so forth. You have looked that over, have you? A. Yes, I have.

Q. Referring now not to any of the conclusions but solely to page 3, I will ask you, from your general observation of the character of the dust that you saw, whether in your opinion that is a proper analysis of that dust?

A. I would say that the analysis reported here shows a composition exactly what I would expect would be found on vegetation.

Q. In other words, from your visual observation of the dust as compared with Mr. Twining's laboratory analysis of it, it would be your view that that is a correct presentation of the character [204] of that dust, is that correct?

A. From my visual observation of the dust, plus my knowledge of mechanical characteristics of the materials that you are dealing with, I would say that this appears in every way to be a reasonable analysis of the deposit on the vegetation.

Q. Doctor, this states, if I might term it such, the mineral characteristics of this dust as consisting of calcium carbonate, magnesium carbonate, silica, and iron aluminum. Is calcium carbonate caustic in any way? A. No, sir, it is not.

Q. Is magnesium carbonate caustic?

A. No, sir.

Q. Is silica caustic? A. No, sir.

Q. And are iron and aluminum caustic?

A. No, sir.

(Testimony of L. H. Duschak.)

Q. Will you tell his Honor what you mean by saying that these particular elements are not caustic?

A. The word "caustic" is used in a particular sense in chemistry as describing certain oxides or hydroxides. We refer, for example, to calcium oxide as caustic lime, although that is not very good usage. That particular terminology in chemistry comes from the basic meaning of the word "caustic," which is something which bites or destroys or corrodes, and we apply it to certain materials, such as lime, such as sodium hydroxide, also known as caustic soda, because these materials, when applied in the form of a moderately strong solution to animal or vegetable matter will more or less destroy or corrode the vegetable matter. On the other hand a substance like calcium carbonate [205] is not caustic. Calcium carbonate is something that we know in tooth powder as precipitated chalk. It is one of the common constituents of tooth powder, neutral, inoffensive, relatively inactive material, and much the same thing can be said of magnesium carbonate.

Q. Let me ask you relative to the fertilization of plants, and particularly orchards, have you had occasion to more or less make a study of the effect on pollinization of various types of alkalis and acids or that sort of thing?

A. Yes, I have made some study of the processes involved in pollinization and of the chemical circumstances which may affect that process.

(Testimony of L. H. Duschak.)

Q. Will you kindly tell his Honor just what studies you have made?

A. Well, these studies have been in part the reading of articles in scientific literature and in part they go back to my school days, work that I had in botany and biology, and in part discussions with men on the University of California faculty, plant physiologists, pathologists, and so on. I think of Dr. DeOng, former professor of the University of California. I discussed quite fully with him one time this process to be sure my understanding and my reading was correct. I could mention others. I have also read some court records. I can think of a case a good many years ago when the question of the effect of dust on vegetation was considered, and in which testimony was offered by the various experts.

Q. From your knowledge of chemistry and your knowledge of plant [206] growth and the discussions you have had, in your opinion would calcium carbonate, as described to you by Mr. Twining, in any way have any effect on pollinization?

Mr. Naus: One moment, if the Court please. I would like to ask a question or two on voir dire with respect to his qualifications.

Q. You said something about what you remembered from your school days helped you in your studies of pollinization?

A. Yes, sir.

Q. And then you read some things. I believe you mentioned a court record or two. Where was that? A court record where, and about what?

(Testimony of L. H. Duschak.)

A. That was a court record of a case in Southern California, the Riverside case.

Q. The Riverside Portland Cement Company, is it? A. That is right.

Q. Do you recall that was the record of a case that went to the Appellate Court and was decided in favor of the landowner?

A. Well, I do not recall the legal details. I know that the Riverside Company installed a Cottrell precipitator at that plant.

Q. I am trying to find if this case you read and upon which you base your ability to form your opinion was a case that can be identified in the Appellate Court Reports. I would like to know what year that litigation was.

A. I will be unable to answer your question in just that form because the record of [207] that case is only a minor item in connection with the reading.

Q. Regardless whether it is minor or major, you mentioned it, so I would like to know something about it. I am trying to get the identity of the litigation, the court record. Do you know what was the year of the litigation, or the year of the falling of the dust?

A. It was prior to 1913. I can't fix the date more accurately than that.

Q. When did you read it?

A. I read it, I think, about ten or twelve years ago in part. I did not read the entire record.

Q. Then you did not participate in the litigation, yourself, did you? A. No, sir, I did not.

(Testimony of L. H. Duschak.)

Q. Just from reading as a matter of interest in a particular field; was that it? A. Yes.

Q. Was it a typewritten record or a printed record? A. It was a typewritten record.

Q. Where did you read it?

A. I read it in the office of the Western Precipitation Corporation in Los Angeles.

Q. Outside of that court record, and outside of what you remembered from your school days, what literature have you read?

A. Oh, I have read a number of publications of the California Department of Agriculture, their agriculture extension service.

Q. Identify them, please.

A. I am not sure that I can begin to mention them now. They have to do with the growth of various fruits with the use of insecticides, with the pests affecting vegetables and fruits in California.

Q. Now, that is the Department of Agriculture of California, is it?

A. Yes, these are publications which are put out by the Agricultural Extension Service of the Department of Agriculture of the University of California in cooperation with the Federal Government. I have also read various publications of the Federal Department of Agriculture dealing with plant diseases, pest control, insecticides, and the various stages of the growth of vegetables, fruits, et cetera.

Q. Of all the publications you have mentioned as having read from either the California source or the Federal source, give me the name of the author

(Testimony of L. H. Duschak.)

and title of any one having to do with the effect of dust falling on blossoms, if you can.

A. I do not recall that any of those publications mentions specifically the effect of dust falling on blossoms.

Q. You say those publications. I am only asking you about the name of the author and the title of any publication that has to do with the effect of dust falling upon blossoms. Was there any?

A. Yes.

Q. From those sources? A. No.

Q. Then you have not named a single publication so far, outside of the court record, that has to do with the effect of dust falling on blossoms, have you?

Mr. Moore: I do not like to object, your Honor, but I think this is really cross-examination.

Mr. Naus: On the voir dire. [209]

The Witness: I would like to say this court record said nothing, as I recall, about the effect of dust falling on blossoms. They simply discussed the effect of dust falling on foliage, that was the aspect in which I was interested, and I do not recall that there was anything in this Riverside record about the effect of dust on blossoms. There may have been, but I do not recall. [209a]

Q. That Riverside case had to do with dust falling on an orange grove or groves?

A. I believe so.

Q. In the course of your reading, and outside of the sources of these publications you have men-

(Testimony of L. H. Duschak.)

tioned, what monograph or article, book or literature have you read with respect to the effect of dust falling on blossoms?

A. I have read a photostatic copy of an article that emanated from some work at Cornell University a number of years ago. I can't give you from memory the authors or the title of that article, but I could produce it.

Q. Could you produce it at two o'clock?

A. Yes.

Q. Thank you. I would be glad if you would. Is there any other that you read that bore on that subject of dust falling on blossoms?

A. Some of these University of California Department of Agriculture publications came very close to that, since they discuss the use of Bordeaux mixture in controlling such things as brown rot on apricots and make some reference to the possibility that this Bordeaux mixture might interfere with the process of pollinization.

Q. Did they say that it did, or is that merely conjectural?

A. My best recollection of the statements is that it might be if it entered the blossoms before pollinization had occurred, and there is a general advice, which I think one finds in a number of these publications, that it is better to use Bordeaux before the blossoms are fully opened, and only in extreme cases [210] where a bad brown rot condition is believed to exist, and where rather severe measures are needed for its control, that Bordeaux

(Testimony of L. H. Duschak.)

spraying should be practiced during the time when the apricots are in full bloom. In other words, the advice in general is to spray before blossoms are fully open and then just after the blooming period.

Q. Have you ever made any experiments or tests to determine the scientific truth or one way or the other about it?

A. You refer to the studies?

Q. No, I am speaking to you personally, as to whether you as a scientist have ever made any experiments or tests of Bordeaux mixture on blossoms to determine the truth one way or the other of what these publications say might have happened.

A. No.

Q. Aside from any publication that you mentioned so far, and the only one specifically I recall——

Mr. Moore: I do not like to object, your Honor, but this is cross-examination. He has not permitted me to finish. The question is whether this witness is qualified as an expert——

Mr. Naus: If the Court please, he has been asked for an expert opinion. I am still on voir dire to see if he is qualified to give one. I haven't gone as far as I intended to, unless the Court stops me.

Mr. Moore: I have not gone into Bordeaux mixture or anything. But I will let Mr. Naus cross-examine the witness and then take up his direct examination. [211]

The Court: You will have an opportunity to

(Testimony of L. H. Duschak.)

cross-examine him. He is already qualified as an expert.

Mr. Naus: Then, if the Court please, he is qualified in chemistry generally and metallurgy, but I do not think he has given any qualifications at all with respect to the effect of the falling of dust on vegetation or on blossoms, and I object to the question that is pending that was put by Mr. Moore, on the ground that it calls for an opinion upon a subject and in a field, a narrow field, upon which the witness has not shown himself to be qualified.

The Court: You had better reframe the question. I see we have a change of reporters. [212]

Mr. Naus: In the first place, is your Honor sustaining the objection to my continuing to cross-examine the witness on the stand with respect to whether or not he is qualified?

The Court: Don't you think you have gone into that fully?

Mr. Naus: No, I don't, if the Court please.

The Court: Well, I might say, as I usually do in my frank way, we have made very little headway in this case; that it does seem to me that we are losing some considerable time. I am willing that both sides have a full record so that when I do the best I can with it, that it can be taken elsewhere so that you may deal with it accordingly. But there is no doubt in my mind that this witness is qualified. Now, then, on cross-examination you may search his weaknesses and bring them out in bold relief.

(Testimony of L. H. Duschak.)

Mr. Naus: Well, then, there are two matters awaiting a ruling, apparently: Mr. Moore's objection to my asking any further questions on voir dire, and my objection as against his qualification as a supposed expert because of his brief experience in the particular field that he put him on for.

The Court: Then I will declare there is nothing before the Court. Reframe your question and I will rule. Proceed.

Mr. Naus: Which one of us shall proceed?

The Court: Either one.

Mr. Naus: Then I haven't discontinued the voir dire yet.

The Court: Proceed. [213]

Mr. Naus: Q. Doctor, outside of the photostat of a report that you mentioned that you had expected to bring here at two o'clock, can you give me the title or the name of the author of any other monograph or book or study—published study—bearing upon the subject of the effect of the falling of dust on blossoms?

A. No, I can't recall any author or title offhand.

Q. Have you personally ever made or conducted any experiment or test with respect to the question of pollinization or fertilization upon the falling of dust or dropping of dust on blossoms?

A. No, I have never personally conducted experiments on that subject.

Q. You have never at any time put any Bordeaux mixture or any dust such as comes from Permanente or any road dust or cement dust or

(Testimony of L. H. Duschak.)

anything on blossoms in different quantities to see the effect it would have with respect to pollinization, have you?

A. I have put Bordeaux mixture on the blossoms, but not for the particular purpose.

Mr. Naus: Not for that study.

That is all on the voir dire, if the Court please.

The Court: Proceed.

Mr. Moore: Q. Now, Doctor, let me ask you, in your opinion, is calcium carbonate caustic?

A. No.

Q. In your opinion, is magnesium carbonate caustic? A. No.

Mr. Naus: If the Court please, that has been asked [214] three or four times of this witness.

Mr. Moore: I know, but you have spent a half hour with your questioning, and I have lost track, and we have got a new reporter here. I may be repeating. I apologize.

The Court: All right; proceed.

Mr. Moore: Q. Is silica caustic?

A. No.

Q. How about iron and alumina—are they caustic? A. No.

Q. Now we come to the matter of pollinization. Can you tell us, from your studies, in a general way what is the chemical reaction of pollinization—I mean, acid and alkali and all that? What is the process that takes place when pollinization occurs?

Mr. Naus: Objected to as calling for an opinion

(Testimony of L. H. Duschak.)

in a field in which the witness has not shown himself to be qualified.

The Court: If he knows, he may answer. Do you know?

The Witness: Yes.

The Court: Proceed.

A. The process of pollinization involves the transfer of particles of pollen from a mature anther to the stigma, which is the top of the pistil, which is connected to the so-called ovary of the blossom—in this case to the little apricot. At the time when the blossom is right for pollinization, this stigma has a thin coating of a somewhat sticky fluid.

Mr. Moore: Q. What is it termed?

A. That is a [215] provision of nature to permit the pollen when it drops on the stigma to adhere there. This fluid has a slightly acid reaction, and there are experiments to show that if an alkaline material is applied to this stigma at just this critical time in sufficient quantity to neutralize this acid coating on the stigma, it will interfere with the germination of the pollen, and hence with the pollinization of the ovary,—in this case the microscopic apricot.

Q. In case the element or dust, or call it what you will, that is put on there is alkaline or neutral, or the reverse, we will say acid, will you describe from your studies and from your knowledge, as near as you can, what effects these various characteristics of dust might have on the pollinization?

(Testimony of L. H. Duschak.)

Mr. Naus: The same objection.

The Court: He may answer if he knows.

A. We will have to take up the three cases separately, but point out, however, in regard to the three cases that you have mentioned that we have to be quantitative about it; in the matter of a perfectly neutral dust, such as road dust, for example, it is conceivable that sufficient road dust might coat this surface of the stigma so as to give it a protective armor which would prevent contact with the pollen. Secondly, we will speak of acid. The addition of a minute amount of acid would probably have no effect; but if the quantity of acid added to the stigma was sufficient to materially alter the chemical [216] composition of this fluid, I would expect it to interfere with the fertilization.

And similarly in this case of alkali, if a very tiny amount of alkaline material were to land on the stigma, it might or might not be sufficient to neutralize all of the acidity of this fluid and interfere with pollinization. If a large quantity of caustic alkali landed on the stigma, it would undoubtedly prevent the development of the pollen.

There should be a further point made there, however: that many blossoms—many flowers are more or less self-pollinating; that is to say, the structure of the flower and its mode of development is such that pollen from the anthers on the stamens of an individual flower can come in contact with the stigma of that flower even before the petals have expanded enough to expose this internal structure

(Testimony of L. H. Duschak.)

to the outside air. Now, that happens to be true in the case of the apricot; so-called self-pollinization can take place there. After the blossom has opened it is entirely possible for the pollen grains from other blossoms to drop in there or to be carried by the breeze or to be carried in by insects. So that I believe that the best opinion is that both cross-pollinization and self-pollinization take place in the case of the apricot.

Mr. Moore: Q. Let me ask you: You have referred to both acids and neutrals and alkalis. Let me get it clear. In the case of neutral dust, if we may use that term, what effect, in your opinion, [217] does that have on pollinization?

A. No chemical effect whatsoever. The only possible effect is by physical interference with the process.

Q. Now, are calcium carbonates and magnesium carbonates acid, alkali or neutral? What are their characteristics?

A. They are neutral salts. They are salts of carbonic acid.

Q. May I ask you, Is it a fact that these very same constituents are in practically all soils?

A. They are very common constituents of soils.

Q. That is, I mean calcium carbonate.

A. Particularly calcium carbonate.

Q. And magnesium carbonate?

A. Yes, that also.

(Testimony of L. H. Duschak.)

Q. Did you visit the Pista ranch about the time of pollinization in 1943? A. No, I did not.

Q. So you have no knowledge of the amount or volume of dust that was being deposited at that time? A. No, I do not.

Q. You did visit it in the fall of '42, did you, or was it the Anderson ranch?

A. I passed by it and stopped near it in the fall of 1942.

Q. But you didn't make any observations?

A. As of the Pista ranch, no.

Q. Have you ever made any particular observations relative to the amount of dust that was deposited on the Pista ranch?

A. Well, I visited it this spring and made some observations then. [218]

Q. By this spring you mean 1944?

A. The spring of 1944.

Q. But in '43 you made no observations whatsoever, is that true?

A. If I may, I would like to refer to notes here, as I think that I did visit it in December '43. (Referring to notes.) Yes, in December of 1943 I visited the Pista ranch in company with Mr. Packard.

Q. That was the first time you had visited that ranch? A. That is right.

Q. Prior to that time as to the amount or volume of dust that might have been deposited there you have no personal knowledge? A. No.

(Testimony of L. H. Duschak.)

Q. Now, Doctor, turning to another subject. I believe you testified that in December of 1942, if I am not in error, you were called in by the Permanente people relative to the dust problem down there, is that correct?

A. That was in November 1942.

Q. November of '42. And then will you relate to the Court what occurred thereafter relative to this dust problem so far as the studies that you made and so far as the efforts to stop or minimize the dust situation.

A. In brief, I made a report to the company about the middle of November in which I advised that, in my opinion, the quantity of dust——

Mr. Naus: Just a moment. Now, if the Court please, if that report is in writing I ask that the writing be produced.

Mr. Moore: Q. Have you a copy of that? [219]

The Court: Q. Have you the report available?

Mr. Naus: The witness has no right to tell us what is in writing.

A. I haven't it here. I can produce it from my files.

Mr. Naus: I think the report ought to speak for itself, whatever report to the company he made, if it was in writing. I object to the witness testifying.

The Court: He asks for the writing. It is the best evidence.

Mr. Naus: Yes; it is presumed they should have an original or the witness should have a copy.

(Testimony of L. H. Duschak.)

The Witness: If your Honor please, the thing is very simple; it can be stated in a few words.

Mr. Naus: I don't care how simple it is.

The Court: Again I call your attention to the rules.

The Witness: The rules, yes.

The Court: You bring me into a field and I get submerged in your field of chemistry. I can well understand how you can get submerged in this legal field.

Mr. Naus: If the Court please, at this time I demand from both the witness and counsel the production of that report.

Mr. Moore: We will produce it. You don't need to make a demand, Mr. Naus.

The Court: Proceed. [220]

Mr. Moore: Q. Without attempting to relate what you said in that report, Doctor, will you tell the Court what occurred in this matter in relation to this dust problem, what happened down there at Natividad.

A. As a result of my recommendations, steps were taken to put in dust-collecting equipment at Natividad.

The Court: Q. Give us the result. Go through and tell us the whole story. Probably that will save some time. What happened?

A. The Permanente Company decided to put in a so-called Cottrell precipitator.

Mr. Moore: Q. May I interrupt you just a

(Testimony of L. H. Duschak.)

moment? Will you describe to his Honor what a Cottrell precipitator is.

A. The Cotterell precipitator is a device for separating, by the use of electrostatic forces, particles of solids or liquids which are in suspension in a gas stream. It is a device that is widely used by smelters and cement plants and other industrial plants to collect dust or liquid particles which are in suspension in gas, such as the stack gas from a kiln. The Permanente Company communicated with the Western Precipitation Corporation in Los Angeles, who furnished this device in this territory, and obtained designs and presently constructed precipitators on the two kilns there at Natividad and put them in operation.

Q. Now, will you kindly explain in a very brief way how this precipitator works. You said, I think, by electrolysis or [221] electric—or the use of electrical forces.

A. If I may step to the blackboard I can illustrate the process very simply.

The Court: Very well.

A. What I am about to present is more of a diagram than anything purporting to resemble a working drawing of the apparatus. If we may imagine a circular pipe that is, say, 10 or 12 inches in diameter, and 6 or 8 feet long; and if we have suspended down in the center of that pipe a small wire with a weight attached to the bottom so that it will hang vertically, we have the elements of the precipitator itself. Now, in addition to that we

(Testimony of L. H. Duschak.)

have certain electrical equipment which will furnish a very high voltage unidirectional current, a current of say 4250 to 60,000 volts. The negative pole of this generator of this unidirectional current is connected to this central wire. The pipe—large pipe—is grounded; that is to say, a connection is made to earth, usually a system of water pipes. The dust suspended in the gas stream is passed up through this pipe from bottom to top. The voltage is so adjusted that a corona discharge, a so-called silent discharge of electricity takes place from this central wire electrode. That discharge consists of electrons, negative particles of electricity. They attach themselves to not only the gas molecules but also to the suspended particles of dust or liquid, and then by virtue of the electrostatic field—we have a central wire [222] charged with negative high voltage; we have the pipe neutral or grounded, and we have a potential drop anywhere from forty or fifty or sixty thousand volts between the wire and the pipe creating an intense electrostatic field. The negatively charged particle in that field is repelled by the wire and moved by electrostatic forces from the electrode to the pipe, so that the practical result of the operation is to deposit on the pipe the particles which were in suspension in the dust stream. The practical application of this idea involves a system for diverting gas from one section of the precipitator to another at a time for a few moments in order to allow it to be rapped for the

(Testimony of L. H. Duschak.)

purpose of jarring loose the dust deposit which has formed on the surface.

Mr. Moore: Q. Doctor, I am going to phrase this question in very unscientific terms to try to get a picture for all of us of this dust catcher or precipitator. Fundamentally it is of the nature of a magnet which is charged positively and the dust is charged negatively, so the dust, by reason of the electric current, goes over and settles on these magnets. I know you don't like the term "magnet," but will you just explain in a very few words, without detail, that electrical——

Mr. Naus: If the Court please, hasn't he just finished explaining it?

Mr. Moore: I thought it would be very simple if you just got a brief explanation so that we could get the idea. [223]

Mr. Naus: I seems to me the explanation is simple; anybody can follow it.

The Court: Q. Is there anything that you can add to what you have already said in relation to that?

A. I think not. I think I have covered it.

Mr. Naus: I think so.

Mr. Moore: Q. When was this process instituted there up in Natividad? When was it put into effect?

A. It was during the summer of 1943. I have no exact dates, because I had no immediate connection with the installation of that equipment.

(Testimony of L. H. Duschak.)

Q. You were familiar with this particular Cottrell process, were you?

A. Very familiar with it.

Q. Will you explain to the Court how you happened to be familiar with that process?

Mr. Naus: Objected to as immaterial how he ever got familiar with it.

Mr. Moore: I think it is proper, your Honor.

Mr. Naus: He has described the process. He has said it was installed, and what involutions or evolutions he ever went through to finally discover or learn something, it seems to me is utterly immaterial.

The Court: I will sustain the objection.

Mr. Moore: Q. In your opinion, Doctor, is the Cottrell process, that precipitating process that you have described, equal to other processes of catching duct or superior to them [224] or inferior to them?

A. I can best answer that by saying it is a process which is very widely used in industry when a dust-collecting problem arises, and it is one of the best processes, and in many cases the best process, that can be employed.

Q. Any time you have a problem of dust and the matter of installing a dust catcher or precipitator, or whatever term you want to use, it is a matter of study, isn't it, as to what process and how it will work?

A. Yes, very much so.

Q. Will you explain to his Honor what you mean by that answer?

(Testimony of L. H. Duschak.)

Mr. Naus: Isn't the answer self-explanatory, that he has to study each individual case?

Mr. Moore: No, I think it is subject to explanation.

Mr. Naus: I object to it as asking a repetitious question.

Mr. Moore: There is no repetition there.

The Court: You may answer the question at this time briefly.

A. We have to consider the character and quantity of dust and the chemical and physical characteristics of the dust, including the size of the dust particles. We have to consider the kind of gas in which the dust is being carried and the temperature of the gas.

Mr. Moore: Q. In other words, each plant that installed has to meet the peculiar conditions of that particular problem, is that correct?

A. Yes. The Cottrell equipment [225] is not a standard equipment like a vacuum cleaner which one can buy at a hardware store.

Q. In other words, it has to be adapted to the particular problem, is that correct? A. Yes.

Q. In the installation at Natividad were there certain problems there that had to be met?

A. There were.

Q. Were you called in as a consultant with regard to those problems?

A. Yes, I was consulted to some extent in connection with the plans for designing the precipitator.

(Testimony of L. H. Duschak.)

Q. And after that precipitator was installed were you also consulted in regard to its operation?

A. To a slight extent. However, the Western Precipitation Corporation are the ones who installed it and who were responsible for showing the company how to operate it and how to overcome operating difficulties which were encountered.

Q. I can introduce it from other sources, but I might ask this question: Doctor, do you know approximately what the installation of that precipitator cost?

Mr. Naus: Objected to as immaterial.

Mr. Moore: I think it is highly important, your Honor.

The Court: He may answer, if he knows.

A. My recollection is that it cost something like \$160,000.

Mr. Moore: Q. Now, will you describe the problems that had to be met there and how this operated and what was done from the time it was initially put in up to the present time? [226]

Mr. Naus: If he knows.

Mr. Moore: If you know.

Mr. Naus: I think he has already answered rather indicating that he doesn't.

The Court: Q. Do you know?

A. I can mention some things. Shortly after the precipitator had been put in operation certain irregularities in its performance were discovered or recognized. Engineers of the Western Pre-

(Testimony of L. H. Duschak.)

precipitation Company were sent for to make a study of that situation, and they presently discovered that in order to work at its best efficiency the temperature of the gas entering the precipitator had to be held within certain limits. When there was a change from natural gas to fuel oil for heating the kilns——

Mr. Moore: Q. May I interrupt just a minute? You say when there was a change from natural gas to fuel oil. What was that situation, if you know?

Mr. Naus: If the Court please, I object to two questions pending at once. Apparently the answer to the previous question is incomplete, and now another complete question is framed in the middle of it.

Mr. Moore: I admit that I am interrupting.

Mr. Naus: I think it would be better for the first answer to be complete, then it would be followed by any things he wants to bring out; otherwise we will have confusion.

Mr. Moore: I will withdraw the question, Mr. Naus, and [227] let the witness proceed.

The Court: You were speaking of when this change was made. Proceed.

A. When the oil fuel was substituted for gas, it was found that the greater flickering of the oil flame caused a vibration of the side walls of the precipitator units and that certain structural changes had to be made in order to make the precipitator perfectly safe to use. These structural

(Testimony of L. H. Duschak.)

changes, which consisted in attaching additional mechanical braces in the form of steel beams to the side walls, were made.

Mr. Moore: Q. Now, you have been in contact with the operation of this precipitator practically since it was installed, is that correct?

A. Yes, at intervals.

Q. Have you made certain tests or caused certain tests to be made as to the amount of dust that is collected by reason of this particular apparatus that you have described?

A. Yes. Just recently I conducted a series of tests, or directed a series of tests, at the Natividad plant for the purpose of determining the efficiency of the precipitator.

Q. You say you conducted. Will you describe to his Honor just what you did or how it was done—these particular tests.

A. I arranged to borrow from the Western Precipitation Corporation one of their test engineers, who had worked with me before and whom I knew to be particularly skilled in making these so-called stack tests. I met him at Salinas, at [228] Natividad, outlined to him the work to be done, and he started in. I visited the plant a few days later and spent part of a day with him supervising his work, and then received from him the test data which he obtained.

Q. In other words, he worked under your personal direction, did he? A. That is correct.

Q. You told him what you wanted done?

(Testimony of L. H. Duschak.)

A. I told him what I wanted done and how I wanted it done, what information I wanted him to obtain.

Q. Part of the time you were present and checked to see that he was carrying out your instructions, is that correct?

A. Yes, that is correct.

Q. Now, have you those tests? A. Yes.

The Court: Have you a copy?

Mr. Moore: I haven't a copy, no.

The Court: All right. It is near time to adjourn anyway. I have other matters to take up. You may turn that over to counsel for examination.

Mr. Naus: Can you turn it over to me for examination during the noon hour?

Mr. Moore: Yes.

(Thereupon a recess was taken until 2:00 p.m. this date.) [229]

Afternoon Session

September 14, 1944, 2:00 P. M.

L. H. DUSCHAK,

recalled:

Direction Examination (resumed)

Mr. Moore: Q. I believe, Doctor, before the recess I was inquiring from you as to certain tests and examinations that you made with regard to this dust catcher, and you had certain figures. Have you over the noon hour submitted those to Mr. Naus?

(Testimony of L. H. Duschak.)

A. Yes, I had just handed to Mr. Naus the reports that I made to Permanente Metals in November, 1942, and also a photostatic copy of this article by Mr. Anderson referring to some experiments as to the effect of duct on pollinization of certain——

Mr. Naus: If I may interrupt, that is what you just handed me?

The Witness: Yes, sir.

Mr. Naus: I ask that it be marked for identification.

The Witness: And in addition I handed you just before or at adjournment a copy of the test reports.

Mr. Naus: So as to clear the record, I ask that each be marked separately for identification. I want to make a statement about them.

(The documents were marked, respectively, Plaintiffs' Exhibits 7, 8, and 9, for Identification.)

Mr. Naus: No. 7 For Identification, if the Court please, [230] was handed me at the noon hour. I have had a full opportunity to examine it. If it should be offered by the defendant, I will make no objection.

Mr. Moore: We will offer it in evidence, your Honor.

The Court: Very well. Let it be admitted.

(Plaintiffs' Exhibit 7 For Identification was received in evidence, as Defendant's Exhibit K.)

(Testimony of L. H. Duschak.)

DEFENDANT'S EXHIBIT K

STACK LOSS DETERMINATIONS TEST DATA

Permanente, Natividad, Sept. 8, 1944

Date	Kiln No.	Test No.	Gas Fuel		Kiln Feed			Temperature F°			Test Duva'n Hrs.	Meter Cond.			Thim. Catch gms.	3Pitot Ave. v.h.	Sample Nozzle dia. in.	B.P. in.	
			cu. ft. used	Time Hrs.	Time Raw Mat'l Hrs.	Pptr Coll. lbs /24 hrs	Kiln	Pptr.	Stack	Pt-3		Ave. Vac.	Ave. T F°	Cond. c.c.					
9-1	2	1	406,524	8.0	127.88	8.0	72,900	920	580	405	5	295	0.42	81	165	11.972	.177	3/8	29.8
9-2	2	2	417,084	8.0	125.68	8.0	54,000	950	580	408	5	304	0.75	76	230	12.844	.176	3/8	29.7
9-3	2	3	.....	.....	.....	.....	1040	620	401	2	219	1.30	70	165	7.254	.180	1/2	29.8	
9-3	2	4	184,916	4.25	45.68	4.28	49,000	1030	610	415	4	413	2.00	62	345	17.331	.181	1/2	29.8
9-4	2	5	221,402	5.13	53.00	5.16	49,500	1010	610	405	5	306	0.43	59	265	8.022	.187	3/8	29.8
9-7	2	6	345,020	8.0	85.81	8.0	55,100	1020	615	418	5	302	0.39	81	130	10.854	.175	3/8	29.8

SUMMARY STACK LOSS DETERMINATIONS

Permanente, Natividad, Sept. 8, 1944

Kiln No.	Date	Test No.	Gas Fuel Ft3/hr.	Kiln Feed #/hr.	Temperature F deg.			Stack Gas		Pptr. Coll. #/24 hrs.	Total Solids #/24 hrs.	Coll. Eff. %	
					Kiln out.	Pptr. in.	Stack	Volume C.F.M.	Stack Loss #/24 hrs.				
2	9-1	1	50,700	31,900	920	580	405	51,200	4040	72,900	76,940	94.8	Day test, 5 hr. duration
2	9-2	2	52,100	31,400	950	580	408	51,000	4170	54,000	58,170	92.8	Day test, 5 hr. duration
2	9-3	3	.....	.....	1040	620	401	51,000	3310	.....	.....	.....	Day test, 2 hr. duration
2	9-3	4	43,500	21,600	1030	610	415	51,800	4230	49,000	53,230	92.2	Night test, 4 hr. duration
2	9-4	5	43,000	20,600	1010	610	405	52,700	2560	49,500	52,060	95.0	Night test, 5 hr. duration
2	9-7	6	43,100	21,500	1020	615	418	51,000	3600	55,100	58,700	94.0	Day test, 5 hr. duration

[Endorsed]: Filed 9-14-44.

(Testimony of L. H. Daschak.)

Mr. Naus: Plaintiffs' Exhibit 8 For Identification is a photostatic copy of a monograph entitled, "The effect of dust from cement mills on the setting of fruit." That was just handed to me, but I was previously familiar with it before coming to court, and I do not need to take time to read it now.

The final matter, No. 9 For Identification, you have just handed to me, Doctor, and we both know I have not even had a chance to start reading it.

The Witness: That is correct.

Mr. Naus: That is the situation, your Honor. I probably will want before I cross-examine the witness to read it.

The Court: That is all right.

Mr. Moore: Q. Doctor, directing your attention to Defendant's Exhibit K, which are some statistical data as to the amount of dust that is now being emitted from the stacks at Natividad, I will ask you whose handwriting that is in, if you know.

A. Mr. Brundage, the engineer who assisted me in these tests.

Q. In other words, he was the engineer who functioned under your [231] direction, is that correct? A. That is correct.

Q. Take those entries there, can you tell us what they mean? I mean if you will just kindly take that report and give the court the purport of it.

Mr. Naus: Do you mean take the abbreviated headings and amplify them so we will understand the abbreviations?

(Testimony of L. H. Duschak.)

Mr. Moore: That is what I mean, yes.

The Witness: The purpose of these tests was to determine——

Mr. Naus: No, I do not think that is what you asked him. I think you asked him to take the abbreviations of the headings and in words state what those headings mean.

Mr. Moore: I will restrict this question. I will go into the other matter later, a full exposition of what the test consists of and the results.

Q. So if you will, first, doctor, just take the headings there, state what those abbreviations mean.

Mr. Naus: They are all highly abbreviated.

Mr. Moore: Q. Take page 1, the first page of it, and start at the left-hand side; read them across—I mean the headings—and explain what they mean.

A. May I say first that many of these items are just detailed observations made in the course of the tests and are simply figures that are used in computing the results of the tests, and unless you feel it necessary to go into all this detail——

Mr. Naus: If the Court please, isn't it for counsel, rather [232] than the witness, to determine what he should answer when asked a question?

The Court: I think the suggestion is very helpful in analyzing it.

Mr. Naus: Your Honor has not even looked at it.

The Court: I am accepting his statement of what he says it is. I think if he gives a summing up

(Testimony of L. H. Duschak.)

of what was done there at that time and place and what he knows about it, himself, if this data means anything, he can point it out.

Mr. Moore: Q. Following his Honor's suggestion, will you tell us that?

A. The purpose of these tests was to determine the amount of dust which was being collected by the Cottrell precipitators and the amount of dust that was escaping into the atmosphere. One kiln was out of commission, so these tests, six in number, were made on what is known as the Kiln No. 1. I may add that Kiln 1 and Kiln 2 are substantially identical, and I have every reason to think that the results obtained on Kiln No. 2 were representative of what would have been obtained on Kiln 1 if we had been able to make those tests.

Q. Where were those tests made?

A. These tests were made on the stack of Kiln No. 2 at Natividad at an altitude of about 100 feet above the ground.

Q. In other words, about half way up?

A. About half way up the stack. These tests showed that the quantity of dust escaping from the stack in a twenty-four-hour period ranged from 2560 [233] pounds up to 4230 pounds; that the collecting efficiency ranged from 92.2 percent up to 95 percent.

Q. May I interrupt you just a minute there? You say from 92 point so and so to 95 percent; that means that they collected what percentage of dust?

A. That is the percentage of the dust which

(Testimony of L. H. Duschak.)

escaped from kiln into the flue system and precipitator.

Q. Do I understand that that is the amount of dust that resulted from the calcining of this material?

A. The total amount of dust resulting from the calcining is what we would call a hundred percent, and of this hundred percent the precipitator was collecting the percentages which I just mentioned.

Q. That is 92— A. 92.2 up to 95.

Q. In other words, to get the picture clear, if there was no dust catcher or precipitator, you used as your measuring basis or yardstick 100 per cent of dust, is that correct? A. Yes.

Q. This test that you made showed that of that 100 percent dust that was made—what are those figures?

A. 92.2 and 95 percent was being collected.

Q. Was being collected—that shows there was anywhere between 5 and about 7.8 percent of dust that still went into the atmosphere, is that correct?

A. Of the total dust produced, yes.

Q. Have you any way of measuring and determining what a hundred percent of dust is? I mean if there were none collected there, what would be 100 percent? Was there any way of measuring it, or have you made any studies or tests to determine that? [234]

A. Of course, in order to arrive at that percentage we also have to determine the amount which

(Testimony of L. H. Duschak.)

was being collected, and in a column headed "Precipitator collection, pounds per 24 hours," the values for the amounts of dust collected for the various test periods are given. These quantities range from 72,900 down to 49,000 pounds.

Mr. Naus: I do not think there is any column that quite reads what the witness stated. I would request that he state what column he is reading from now that is written on there.

The Witness: The column just referred to would be No. 11, numbering from the left-hand side of the sheet.

Mr. Moore: Q. That is the second sheet you are referring to, is it not?

A. Yes, the second sheet.

Q. Have you made any tests or studies at any time to determine the volume of dust that is put into the atmosphere as a result of this process?

A. You mean at the present time, or in recent times?

Q. At any time, Doctor, if you have made any tests at any time will you tell the Court about them?

A. These tests that I have just been reporting are the tests which were made to determine the quantity of dust which was escaping and the quantity of dust which was collected.

Q. Was there any way that you could measure the amount of dust that was escaping by pounds, square footage, or anything of that sort?

A. Yes. [235]

(Testimony of L. H. Duschak.)

Q. Did you make any tests along that line?

A. Yes, and I stated the results of those tests. Those are the first figures which I gave, which are on this page, 2, column 10, and in this column 10, which is headed "Stack loss," and the symbol for pounds every twenty-four hours is stated in pounds, the quantity of dust indicated by the test which would escape from the stack in a 24-hour period.

Q. Did you make any examination as to the chemical constituency of this dust as it escaped from the stack?

A. Yes, I have had a chemical analysis made of a sample of dust which we collected at this 100-foot point in the stack.

Mr. Naus: One moment. You have asked about one thing and he has answered about another.

Mr. Moore: I will reframe the question.

Q. You did make a test approximately halfway up the stack, is that correct? A. Yes.

Q. Can you tell us what that showed?

A. Yes, briefly it showed that the material was a mixture of calcium and magnesium carbonates with some calcium-magnesium oxide, and with small amounts of silica and the oxides of iron and aluminum.

Q. Have you the percentages? You have handed me a paper with some figures on it, Doctor. The lines are labeled A, B and C. Will you kindly explain that document that you handed me?

A. These designations A, B and C are sample designations. Samples A and B are samples of

(Testimony of L. H. Duschak.)

material collected by the Cottrell precipitator. [236] Sample C is of the dust collected in the stand at this 100-foot point.

Q. Taking those that were collected in the precipitator—those are samples A and B——

A. Yes.

Q. Will you state what their chemical constituency was?

A. It was substantially the same as that of the dust collected in the stack, that is, calcium carbonate, magnesium carbonate with some calcium oxide and some magnesium oxide.

Q. Can you give us the percentages?

A. The analysis as recorded here simply shows the quantity of calcium expressed as calcium oxide and the quantity of magnesium expressed as magnesium oxide. And I want to explain in advance that it does not mean that all the substances are present in that form in the analysis. For sample A, calcium oxide 38.2 percent; magnesium oxide 22.8 percent; R_2O_3 —and by that is meant aluminum oxide and ferric oxide 0.9 percent; insoluble—and by that we mean silica in this case—1.06 percent. The ignition loss 39.60 percent, and that reflects the amount of carbon dioxide expelled from this sample by heating it at high temperature.

Q. Taking the sample that you took—I believe Sample C—from the stack, what difference was there in its characteristics from those taken in the dust collector?

(Testimony of L. H. Duschak.)

A. I think that perhaps can best be answered by giving the actual analytical figures. Calcium oxide 35.45; magnesium oxide 21.2; R_2O_3 , 1.14; insoluble 2.22; ignition loss 39.19. [237]

Q. And those were taken in the stack at about half way up, is that correct? A. Yes.

Q. Have you made any other analysis of this material from that point forward? I mean, you have made no analysis at the top of the stack, have you?

A. I haven't attempted to collect any sample of the dust.

Q. You have made no collection of samples on any of these ranches, is that correct?

A. I haven't made any chemical analysis of any sample on any vegetation.

Q. Do you believe the report read here by Mr. Twining is unquestionably correct as to the constituency of the dust?

A. Yes, I have no reason to question his analytical results at all.

Q. What is Bordeaux mixture, Doctor?

A. Bordeaux mixture is an insecticide which is prepared by bringing together a slurry of calcium hydroxide and a solution of copper sulphate, sometimes known as bluestone or blue vitriol.

Q. What is that used for, if you know?

A. It is used for the control of certain fungus diseases. I am particularly familiar with its use as a preventive of brown rot in apricots.

(Testimony of L. H. Duschak.)

Q. In other words, the purpose of it is to kill this fungus growth, is that correct?

A. Kill the spores of the brown rot.

Q. Would you explain to the Court how this Bordeaux mixture functions in that regard?

A. No, sir, I am unable to do that, and I am not sure that anybody else can. What is known by [238] practical experience is that the Bordeaux mixture does destroy the spores of this brown rot and certain other diseases, and we can simply say by inference that it is the presence of caustic lime and of certain copper compounds, that when the lime and the copper sulphate are brought together, a number of copper compounds are formed.

Q. You refer to caustic lime. Can you tell us the chemical formula for caustic lime?

A. The so-called burnt lime or pick-lime, before it has been brought into contact with water, is calcium oxide. In the preparation of the Bordeaux mixture we have to slake this lime and add water to it, which converts the CaCO into calcium hydroxide, $\text{Ca}(\text{OH})_2$, shown on the second line on the blackboard there at the right hand. Some of that calcium hydroxide reacts with the copper in the preparation of the Bordeaux mixture, but there is a very considerable excess of that calcium hydroxide which remains in the mixture as such.

Q. This dust that escaped from the stacks, from your examination of it at the hundred-foot level, what similarity does it bear to the Bordeaux mix-

(Testimony of L. H. Duschak.)

ture? I mean from the standpoint of its chemical constituency.

A. The nearest approach would be to say that it contains a small amount of calcium oxide, which is one of the materials used in preparing the Bordeaux mixture.

Q. In other words, it is a form, using a lay term, of unslaked lime, is that correct?

A. That is correct. [239]

Q. That same material is used as the basis of Bordeaux mixture, is that correct?

A. Lime in a pure form, a reasonably pure form, is used as the basis for Bordeaux mixture, yes.

Q. The Bordeaux mixture, at the time it is used, it is combined with water, is that correct?

A. Yes.

Q. What happens when this dust comes out of these stacks and comes in contact with the water?

A. The lime, any lime in the dust particles is continuously absorbing carbon dioxide, which is present in the stack gas, and for some appreciable time after what we might call the gas stream leaves the stack, these particles will be in an atmosphere fairly rich in carbon dioxide and will continue to absorb carbon dioxide.

Q. How about moisture, water, H_2O ?

A. There is water vapor in the gas in the stack resulting from the actual water in the rock which is fed to the kiln, and also resulting from the combustion of the fuel.

(Testimony of L. H. Duschak.)

Q. Now, the absorption of the carbon dioxide from the air, the water, the hydrogen oxide or H_2O —the speed, if we may call it, of that combination with this dust that escapes from the stack, does that depend at all upon the character of the water?

A. Yes, in this way, that moisture, water vapor in the air, acts as a catalyzer. It speeds up the absorption of the carbon dioxide by any calcium oxide present, so in a region where humidity is high at times the rate of the carbonization would be greater than in an exceedingly arid region. [240]

Q. Is there any way it can be measured that you know of, that speed with which that absorption takes place?

A. It probably would be possible to devise experiments for measuring that.

Q. You have never done so?

A. I have never done that personally, no.

Q. But it is your opinion as an expert that the rapidity with which that chemical change takes place is dependent upon the character of the water, is that correct?

A. In so far as the character of the water relates to the amount of water vapor, the amount of moisture, the humidity of the atmosphere.

Q. Are you familiar with the climatic conditions generally in that area that lies to the west of the Coast Range here in California, and I am referring now particularly to Monterey County?

A. Reasonably, yes.

(Testimony of L. H. Duschak.)

Q. What is the character of the weather there, generally, throughout the year? Will you describe it?

A. One of the things that determines the character of the weather there is the break in the Coast Range formed by Monterey Bay, which permits a very considerable amount of fog to blow in from the coast, so that there is a region there where the humidity is rather high a good deal of the time. [241]

Q. You have been to the plant there at Natividad; you are familiar with it. What would be your view as to the humidity of the air in or about the plant there at Natividad and the Pista ranch?

A. I am hesitating, because one usually connected statements in regard to weather with different periods of the year.

Q. I was asking a general question first and then I want to break it down into the various seasons of the year.

A. Well, I would take this statement, for example, that on the average the humidity in the vicinity of Natividad and the Pista ranch is considerably higher than the humidity, say, 50 miles to the south or 25 miles to the south.

Q. You stated that you made your first examination in regard to the dust situation, I think, in November 1942? A. That is correct.

Q. From November 1942—and I am referring now particularly to the months of February, March

(Testimony of L. H. Duschak.)

and April of 1943—were you down in that vicinity at all? A. No.

Q. You were not down in Monterey County?

A. No.

Q. You have seen the weather reports as to the rainfall and wind in those months, have you not?

A. Yes, I have looked at those reports.

Q. But personally you were not present——

A. Personally I was not there.

Q. —and able to observe the weather. In general what did [242] those weather reports show with regard to the humidity and rainfall in and about——

Mr. Naus: Objected to as calling——

Mr. Moore: Just a minute, please.

Mr. Naus: I thought you had finished.

Mr. Moore: No.

Q. (continuing) —February, March, and April of 1943?

Mr. Naus: Objected to as calling for secondary evidence of a writing. The reports can tell what they show.

Mr. Moore: I can introduce them at this time.

Mr. Naus: You can offer them at this time, and I presume they will be received, but I certainly do not want this witness to tell me what the reports show when I can look at them myself.

Mr. Moore: I am going to pass the subject for a minute, because I do not happen to have a certified weather report with me, your Honor.

Mr. Naus: Weather reports do not need to be certified. They are distributed free. The Court

(Testimony of L. H. Duschak.)

can take judicial notice of them, I believe. But whenever it comes to a question of what is shown on a particular day, the uncertified report is the only evidence.

Mr. Moore: I am going to pass the subject because of Mr. Naus' objection, your Honor.

The Court: Very well.

Mr. Moore: And I am going to ask the privilege of [243] recalling the doctor on this particular subject when I have the weather report.

The Court: Maybe I can obviate the necessity of doing that. There can't be any question about the reports?

Mr. Naus: No, I will not dispute the reports. All I am getting at, if the Court please, if they are going to talk about what the weather reports show, let them bring them in and I will make no objection to them. I do not want witnesses to talk about what they think they remember the weather reports show.

Mr. Moore: We will have them tomorrow, Mr. Naus.

Mr. Naus: If the evidence otherwise concludes, I would be perfectly willing to bring the weather reports for any days or series of days, weeks, or years that could be found.

The Court: Does it give the rainfall during that period?

Mr. Moore: Yes, your Honor.

Mr. Naus: Temperature.

The Court: Does it report on the fog, too?

(Testimony of L. H. Duschak.)

Mr. Moore: I do not know that it does.

Mr. Naus: Total precipitation within two 12-hour periods.

Mr. Moore: Mr. Baggart is an expert on the matter, a horticulture expert. He says he believes they will show the foggy days, too, your Honor.

The Court: If that is in the report, isn't that as much as you want to show? [244]

Mr. Moore: No, I wanted to ask Dr. Duschak as an expert what effect that moisture in the atmosphere shown by these weather reports would have.

The Court: Assuming there was a foggy period——

Mr. Moore: What effect it would have on this dust.

Mr. Naus: I couldn't make any objection to that. All I am objecting to is this: If they are going to talk about reports, let us use the reports.

The Court: Proceed.

Mr. Moore: Q. Do you get my question?

A. Yes. As I understand it, you wish to know what effect the presence of moisture in the atmosphere would have on this absorption of carbon dioxide.

Q. That is right.

Mr. Naus: I think he has testified to that a number of times, but I won't complain about it being done again.

The Witness: I testified it would accelerate the absorption of the carbon dioxide.

(Testimony of L. H. Duschak.)

Mr. Moore: Q. In other words, if I understand you correctly, a condition of the atmosphere where there was moisture in the air would accelerate the changing of the calcium oxide into calcium carbonate?

Mr. Naus: If the Court please, objected to as asked and answered several times. The witness has repeatedly testified that the weather will act as a catalyzer. [245]

The Court: He may answer.

A. Yes.

The Court: All right.

Mr. Moore: Q. In your opinion, Doctor, does calcium carbonate or magnesium carbonate have any effect on the pollinization of fruit?

Mr. Naus: I object to that as asked and answered three or four times.

The Court: He may conclude.

A. No.

Mr. Moore: Q. In your opinion, from the chemical analysis that has been shown here by Mr. Twining, there is nothing in that chemical analysis that could in any way affect the pollinization, is that correct?

A. There is no substance shown by his analysis as present in the dust that could interfere with the pollinization of the apricots.

Q. Maybe I asked this: In these tests that you make, Doctor, can you tell us what portion was carbonated in the stack, I mean at that 100-foot stage?

(Testimony of L. H. Duschak.)

A. I can state what proportion of the sample collected at that point was carbonated and what proportion was oxide.

Q. Would you do that?

A. It was approximately 77 per cent carbon; that would mean 23 per cent would be oxides.

Q. As that passed up the stack and into the air would that change from oxide into carbonate continue?

A. Yes, and if I [246] might explain just a bit there—and I think it has a bearing on this situation—, this process of absorption of the carbon dioxide necessarily begins on the surface of the grain and proceeds from the surface inward, so that if we think of a grain which has been completely calcined, that is, consisted entirely of calcium and magnesium oxide as it left the kiln, the moment it came into the region of lower temperature, in contact with the carbon dioxide, the absorption of this gas would begin and it would reflect first on the outer surface of the grain, so that after partial carbonization had occurred we would have an outer shell of calcium and lime carbonates and an inner core of oxides. Then this inner core of oxides gradually diminishes in quantity as the exposure of the particle to an atmosphere containing carbon dioxide and moisture continues.

Mr. Moore: No further questions.

Mr. Naus: If the Court please, could we take the recess earlier so I may have an opportunity to read the subject data?

(Testimony of L. H. Duschak.)

The Court: Very well. The court will recess.

(Recess.)

Mr. Naus: Shall I proceed, your Honor?

The Court: Proceed.

Cross-Examination

Mr. Naus: Q. I understand in your direct testimony you were first employed or retained by the defendant The Permanente [247] Company as of November 10, 1942; correct?

A. No, that is not correct.

Q. When was it, then?

A. In the summer of 1939.

Q. Between that date and the 14th of November 1942 you investigated the matter of this dust escaping from the stack into the surrounding country, didn't you, to some extent?

A. The dust escaping from the Natividad plant?

Q. Yes. A. Yes, sir.

Q. And as a result of that investigation you made a report—— A. Yes.

Q. —to The Permanente Metals Corporation, your employer? A. Yes.

Q. And this is the report that you made as of that date? A. Yes, that is a copy.

Q. Well, that is a carbon duplicate of the original, isn't it? A. That is correct.

Q. It is in all respects like the original?

A. Yes.

Mr. Naus: I offer it.

The Court: It may be admitted and marked.

(Testimony of L. H. Duschak.)

(The report was marked Plaintiffs' Exhibit 9 in evidence.)

Mr. Naus: With no desire to take up time, I would like to read this report at this time, if your Honor please.

The Court: Proceed.

Mr. Naus (reading): "November 14, 1944"—

Q. By the way, Doctor, I presume that was on your letterhead, [248] was it?

A. The original was on my letterhead, yes.

Q. How does that letterhead read?

A. "L. H. Duschak, Consulting Engineer, San Francisco, California."

Mr. Naus: It is addressed to the Permanente Metals, P. O. Box 29, San Jose, California, Attention Mr. D. A. Rhoades. Subject, Natividad Plant—Dust.

Mr. Moore: I do not want to interrupt you, Mr. Naus, but you might tell his Honor who Mr. Rhoades is.

Mr. Naus: I was about to do that when you did interrupt.

Q. This says, "Attention: Mr. D. A. Rhoades." Who is he?

A. Mr. Rhoades is the general manager. I believe his title is Project Manager for the Permanente Metals, headquarters at Permanente.

Q. He is the man the defendant designated that you should report to, was he?

A. He was the man who requested me to make the examination.

(Testimony of L. H. Duschak.)

Mr. Naus (reading): "Gentlemen:

Pursuant to Mr. Rhoades' letter of October 26th, I called at your Natividad plant on Wednesday, November 11th"——

Q. I pause there for a moment. Have you a letter of October 26 from Mr. Rhoades?

A. I did have.

Q. Have you one now? A. I couldn't say.

Q. Will you look for it over night, and if you have one produce it tomorrow morning?

A. I will look for it, yes. [249]

Mr. Naus: Gentlemen, have you a carbon of Mr. Rhoades' letter referred to?

Mr. Moore: I have not. We can probably find it.

Mr. Naus: If you can, will you try to find it and produce it tomorrow morning?

Mr. McCarthy: I doubt if we can produce it by then. It probably would be down at Permanente. I will try to.

Mr. Naus: Thank you. (Reading):

"Pursuant to Mr. Rhoades' letter of October 26th"——

Q. That would be 1942, I take it, Doctor?

A. Yes.

Mr. Naus (continuing reading):

"—I called at your Natividad plant on Wednesday, November 11th,"——

Q. That is 1942, Doctor? A. Correct.

Mr. Naus (continuing reading):

"—and in company with Mr. John Garoutte"——

(Testimony of L. H. Duschak.)

Q. Who is he?

A. He is the superintendent of the Moss Landing and Natividad operations.

Q. So that wherever you accompanied him in this investigation, he joined you in making an investigation for the Permanente Metals Corporation; correct?

A. He acted as my guide.

Mr. Naus (continuing reading):

“—an inspection was made of the plant and surrounding territory.

It is my conclusion that the dust condition about [250] the Natividad plant is serious, and one which might become exceedingly troublesome if not given early attention. The dust which has fallen on adjoining ranch property is sufficient to form the basis for nuisance complaints and claims for damages. Recent California court decisions in generally similar cases have resulted in the issuance of injunctions and in the awarding of damages, where damage suits were filed. Under normal conditions there would be a strong probability that court action on the Natividad case would lead to injunction and award of damages. Under existing conditions the court might hesitate to interrupt plant operation, but would probably award damages.

The field situation is briefly as follows: a noticeable deposit of dust was observed on foliage along the Gabilan Creek road’—

Q. I would like to pause here a moment and call your attention, Doctor, to Plaintiffs’ Exhibit 1, which is a scale diagram of the locality showing

(Testimony of L. H. Duschak.)

the plant site, the stockpile, the old Los Angeles Stage Road, Gabilan Creek, and then a meandering road roughly paralleling Gabilan Creek. Is that meanderin groad roughly paralleling Gabilan Creek the one you were journeying over?

A. Yes, that was one of the roads.

Q. Referred to in the letter? A. Yes.

Mr. Naus: (continuing reading): [251]

“—a noticeable deposit of dust was observed on foliage along the Gabilan Creek road, approximately 3 miles north of the plant. At points nearer the plant along this road heavier dust deposits were observed. Inspection of the territory to the west and south indicates the following boundaries for the area within which the deposit of dust has occurred in sufficient quantities to constitute a probable nuisance, namely 3 miles north, 2 miles south and 1 to 1.5 miles west.”

Q. I pause for a moment. The Pista orchard is about a half mile west of the plant, isn't it, Doctor?

A. Approximately that. I thought it was nearly a mile, but I haven't measured the distance.

Q. From a half mile to a mile; the nearest boundary would be about a half mile, and the farthest exterior boundary about a mile, is that correct?

A. To the best of my knowledge, that is approximate, yes.

Mr. Naus: (continuing reading):

“—and 1 to 1.5 miles west. The deposits ob-

(Testimony of L. H. Duschak.)

served are the result of some three months' operation of the plant, and may be taken as representing roughly one-half of the total deposition which would take place during the whole dry season. Eastward of the north-south line through the plant, there is only rough country from which complaint is unlikely. [252]

In the late afternoon of Tuesday, November 10th, it was noted that the atmosphere in the vicinity of the plant was almost stagnant, and that a considerable cloud of dust accumulated at a level roughly estimated at 1000 feet above the ground. This cloud spread out toward the hills, extending more to the north than to the south. I was informed that a generally similar condition had been observed a number of times. This is probably the result of the so-called 'reversal' of atmosphere which frequently occurs in the late afternoon or early evening. Presumably the heavier deposits of dust in the vicinity of the plant and to the north are due to this condition.

Within the area indicated above, the following market crops, apricots, tomatoes, and strawberries are grown, and possibly there are others. It is doubtful whether the plant dust would cause any diminution in crop, but it would unquestionably reduce the market value of the crops just mentioned. The drying of apricots within the dust zone would be out of the question. In addition there are home gardens in which vegetables and small fruits such as blackberries are grown. At

(Testimony of L. H. Duschak.)

two ranches we were informed that no attempt had been made to use the blackberry crop because of the dust on the fruit. I do not regard this as a prejudiced decision.

The actual loss to ranchers this fall has not been [253] serious, since the principal crops had been marketed, but the situation would be different next year."

Q. When you speak of "next year," you meant the crop season of 1943, didn't you, Doctor?

A. Yes.

Mr. Naus (continuing reading):

"The effect of dust on these crops next year would undoubtedly provide evidence with which successful damage suits and nuisance claims could be prosecuted.

Mr. Garoutte informed me that an analysis of a sample of dust showed that it consisted of a mixture of calcined and uncalcined material. This was confirmed by my examination of a sample of dust which I collected near the base of the stacks. A screen analysis of this dust showed that approximately 52% was finer than 325 mesh"—

Q. What is the abbreviation there? Is that for "millimeters"?

A. Yes, 0.046 mm., millimeters.

Q. The parenthesis refers to 46/1000 of a millimeter, doesn't it? A. Correct.

Mr. Naus (continuing reading):

"... and a microscopic examination of the minus 325 mesh fraction showed the presence of many

(Testimony of L. H. Duschak.)

particles ranging from 5 to 10 microns in diameter. One characteristic of this dust which permits its ready identification on foliage is the crystalline character of even the very minute particles of uncalcined material. The crystal faces of [254] these minute particles show a sparkle in the sunlight even when the dust particles are too minute to be observed with the naked eye.

The one certain way to avoid litigation and other trouble would be to install an adequate dust collecting system. Three methods are thinkable, wet scrubbing, centrifugal collection, (Multiclone or similar device), or electrostatic precipitation. In view of the high temperature of the dust-laden gas, 900° to 1150° F.”——

Q. “Fahrenheit”—that is what the “F.” means, doesn’t it? A. Yes.

Mr. Naus (continuing reading):

“—both the installation cost and operating cost of a wet scrubber would be high. It is my opinion that electrostatic precipitation by the Cottrell process offers the best solution of the problem, although the possible use of Multiclones might be considered. In any case, fans will have to be installed, as the stacks now provide no excess draft. While the first cost of a Cottrell Precipitator will be high, its operating cost will be much less than for the Multiclones, because of the lower fan power required and negligible maintenance. However, the principal reason for favoring electrostatic precipitation is

(Testimony of L. H. Duschak.)

because of the higher collecting efficiency which can be obtained. I have knowledge of cases where Multiclone installations were made on the basis of small scale [255] tests which indicated satisfactory clearance, only to find later on that a dust nuisance still existed. It is recommended that the necessary data be obtained with respect to the cost of dust collecting equipment.

There is a further point to be considered in this connection. The writer was informed that it had been found impracticable to raise the production beyond 165 tons per kiln per day,"——

Q. That would be 330 tons for the twin kilns, wouldn't it, Doctor?

A. It would be two times.

Mr. Naus: Yes.

"—and that the limiting factor appeared to be lack of adequate stack draft. This conclusion is undoubtedly correct, as a study which I made in April of the specifications for the Natividad stacks led to the conclusion that there was a theoretical margin of not more than 0.03 inches water gauge on the basis of capacity and fuel figures supplied by the F. L. Smidth Company. This finding was reported to you at that time. Actually the fuel consumption per ton of finished product is slightly higher than that estimated by Smidth. Thus if kiln production is to be increased, additional draft must be provided. Presumably the only practicable way is by the installation of fans. The provision of this necessary fan capacity could be easily taken

(Testimony of L. H. Duschak.)

care of in connection [256] with the installation of dust collecting equipment.

If kiln capacity is increased in this way, the probable increase in dust pick-up should be given careful attention. An increase in capacity from the present 165 tons of finished product per day to say 200 or 210 tons might double the amount of dust picked up by the gas streams. This should be considered in connection with the design of dust collecting equipment, and also in any study of the dust disposal problem. A further point requiring consideration is the cooling of the gas streams. For ordinary sheet steel construction an entrance temperature of about 800° F. is considered to be the safe maximum. This can be raised by using heat resisting construction at considerable additional expense. For concrete the limit is lower. Further, an increase in kiln capacity would probably raise the temperature of the outgoing gas. The gas cooling problem should be examined with this circumstance in mind.

Cooling can be effected by cooling pipes, by admission of outside air, or by the use of water sprays. The first two are the preferable methods, and engineering studies are indicated to determine which will be the more economical. Cooling by admission of cold air increases the gas volume to be handled, and consequently the cost of the dust collecting equipment, of the fans and of the power [257] for operation. Cooling with water sprays

(Testimony of L. H. Duschak.)

also increases the gas volume, but not to the same extent.

The conditions at Natividad seem particularly favorable for the use of atmospheric cooling pipes. The dust is neither abrasive, corrosive nor sticky, and should cause no difficulty in a properly designed pipe cooler. Cooling in this way will permit the use of smaller dust collectors and fans than with the other cooling methods suggested. Thus the cost of the pipe coolers may be balanced against the saving on collectors and fans.

A few words concerning the general strategy of the situation: the attitude of two residents within the dust zone with whom I talked was friendly but insistent as to the gravity of the nuisance. I cannot stress too strongly the wisdom of dealing with this situation before real antagonism and bitterness has developed. The present situation holds this potential danger. If an 'ambulance chasing' type of attorney became interested, he might easily convince a considerable number of residents in the vicinity that they were experiencing damage and thus build up a formidable list of plaintiffs. This has happened in other cases, and could happen about Natividad if the dust situation is not promptly dealt with. The cost of defending suits filed by a number of plaintiffs would be considerable. Extensive field work would be necessary to delineate the dust zone, and thus exclude many claimants who contrary to fact might have been induced to believe that they were suffering dust

(Testimony of L. H. Duschak.)

damage. It is probable that the cost of meeting this imagined situation would be considerably greater than the cost of installing adequate dust collecting equipment.

It is the writer's judgment that it would not be advisable at the moment to make a quantitative field study of the dust fall in what appears to be the dust zone. This will only attract further attention to the situation, and serve very little useful purpose at the moment. Later on a survey of this sort might become necessary.

There are cases, notably in connection with smelter smoke damage, where 'smoke rights' or 'dust rights' have been purchased, or where property has been purchased outright. This policy of 'appeasement' usually turns out to be extremely expensive, and does not always solve the problem. It has the obvious disadvantages that it involves admission on the part of the operator of responsibility for nuisance and damage. Moreover the administration of such a plan involves considerable expense, as many claims will be made by people who are entirely unaffected by dust. Each case has to be investigated and adjusted. This may involve litigation, or a compromise payment which is in reality nothing more than blackmail. [259]

In conclusion, I recommend that the Natividad dust problem be given immediate attention. The desirability of finding a solution before a group

(Testimony of L. H. Duschak.)

of 'chronic dust farmers' has been organized cannot be overemphasized.

Respectfully submitted,
/s/ L. M. DUSCHAK."

The Witness: L. H. Duschak.

Mr. Naus: Pardon me. Yes. The carbon is a little blurred. My glasses aren't always the best. "L. H. Duschak." [259a]

Q. Now, as nearly as November, 1942, Doctor, were you undertaking to *to* act for Permanente in being the strategy arranger in handling those damage and injunction claims arising from dust around Natividad?

A. I was endeavoring to perform the full duty of a consulting engineer who is asked to advise a company what it should do in certain circumstances.

Q. I only know the duty of a lawyer, I don't know that of an engineer, so will you tell me whether, as early as November, 1942, you were undertaking to act as the strategy arranger for Permanente Metals Corporation in meeting these damage and injunction claims arising from dust around Natividad?

A. Among other things I was undertaking to inform the Permanente Company of the large amount of annoyance that certain kinds of lawyers can cause a corporation.

Q. Ambulance-chasing lawyers, blackmailing lawyers—is that the kind that you had in mind you

(Testimony of L. H. Duschak.)

were warning them against as a consulting engineer?

A. I think I used that designation in my report, yes.

Q. Doctor, I will ask you whether, in your opinion as an expert you consider the Pista claim founded on blackmail?

A. Well, I consider it—I wouldn't say it was blackmail; I consider it a claim which tries to hold the Permanente Company responsible for many, many things with which it has no connection whatsoever.

Q. I see. Now, turning for a moment to Defendant's Exhibit K, [260] here; that represents the statistical features of the study of the dust still escaping from the stack, doesn't it?

A. Yes, it gives the actual quantitative result of various observations that were made in determining the dust loss from the stacks and the efficiency of the precipitator.

Q. Now, that precipitator was installed and put into function as a dust collector when?

A. In the summer of 1942.

Q. Could you tell me what month or months you may have in mind in speaking of the summer?

A. The best evidence I have is in that report of mine which you just read, in which I said that the precipitator had been in operation, I believe it was, for about three months prior to the date of my visit.

Q. Doctor, you state in there about the plant having been in operation three months and you

(Testimony of L. H. Duschak.)

were recommending that the precipitator be installed.

A. Oh, I beg your pardon; I was confused as to your question.

Q. When was the precipitator installed and functioning, the one that you recommended in that letter?

A. I can't tell you of my own knowledge.

Q. Was it before or after or during apricot blossom time around Natividad in the year 1943?

A. My impression is that it was not put in operation until after the blossoming time.

Q. I think you are quite correct about that. Now, the fact is, is it not, to the best of your recollection and observation and knowledge, that this Cottrell precipitator was not functioning [261] at that plant in apricot blossom time in 1943 but was functioning at that plant in apricot blossom time in 1944; am I correct?

A. Yes, but in 1944 functioning with some difficulty during blossoming time.

Q. I know, but without pursuing the minute detail——

Mr. Moore: Just a minute. Please let the witness answer the question.

Mr. Naus: Please let me finish a question, because I was in the middle of the question. I think he had finished his answer.

Mr. Moore: He did not. I will ask that the question and answer be read and the witness be permitted to finish the answer.

(Testimony of L. H. Duschak.)

The Court: You may read the question and answer.

(The reporter read the previous question and answer.)

Mr. Naus: Q. Is that answer complete, Doctor?

A. Yes.

Q. I thought so. Well, you say functioning with some difficulty in apricot blossoming time in 1944. Translating that into tons of dust escaping into the atmosphere from the top of the stacks, how many tons of dust were escaping, having in mind that difficulty?

A. I can't answer that because I didn't make any measurements, but I would say it would be, on occasions, many times the amount shown in that report which you are holding in your hand.

Q. How many times, on occasions, and for how long occasions?

A. I made no tests. I wasn't there, so anything that I said [262] would be simply an opinion based on what I was told by others. I saw some reports which showed efficiencies down to 70 percent.

Q. Was it ever lower?

A. 70 percent would mean that there was escaping 30 percent of dust as against an average of, let us say, about 6 percent; in other words, five times the amount of dust shown by that report.

Q. All right. Now, having in mind that you are suggesting that there was that poor functioning during apricot blossom time in 1944, I will ask you

(Testimony of L. H. Duschak.)

what was apricot blossom time in 1944 in that region?

A. It was in—I don't know the exact date, but in general from about the 1st of March onward.

Q. In the year 1944 from what date to what date was the Pista apricot orchard in bloom or in blossom?

A. I didn't observe it; I would only answer that on the basis of the record I heard made here.

Q. Isn't it the fact that you don't know?

A. Except if I believe your witnesses.

Q. I am speaking of your personal knowledge; I am not asking you to pass judgment on the witnesses, Doctor; I will leave that to his Honor.

A. Obviously, I said I wasn't at Natividad all that spring, so I can't know by my own direct knowledge.

Q. Well, of your own knowledge do you or not know whether that Cottrell precipitator was functioning well or poorly during apricot blossom time in the Pista orchard in 1944?

A. I know that it was functioning poorly. If I may explain, I happen to [263] have some apricot trees in my yard, so I know about the blossoming time of apricots in California.

Q. Where is your yard where you have these apricot trees? A. Over in Berkeley.

Q. Well, then, I will ask you then, as you seem to know something about apricots, or suggest that you do, do apricot trees blossom in Berkeley at the

(Testimony of L. H. Duschak.)

same time of the year that apricot trees blossom in the Natividad region? A. I believe not.

Q. I think you are right about that. Do they blossom in Natividad at the same time they do in the Santa Clara Valley?

A. No, I think they are somewhat later there at Natividad.

Q. Do they blossom at the same time they do out around Hayward, San Leandro and the like?

A. I couldn't say; I haven't observed that.

Q. Now, under this Defendant's Exhibit K, those were tests that were made on each of six days from September 1 to September 7, both inclusive, is that correct, of this year?

A. Yes, these tests show—this record shows that the tests were made September 1st, 2nd, two on September 3rd, one on the 4th, and one on the 7th.

Q. Right on the very eve of this trial, is that correct? A. That is correct.

Q. They are the latest information you have on this subject as to the performance of those stacks, aren't they? A. That is correct. [264]

Q. Now, at the present time, and at the time of these tests, what was the average daily total tonnage of raw dolomite out of the quarry handled through that plant?

A. That report shows.

Q. Would you tell me, please?

A. I am looking at column 6 numbered from the left hand on the same page of this report which is headed "Kiln feed, tons, raw material," and these

(Testimony of L. H. Duschak.)

are tons for an eight-hour period. Do you wish me to read the various values that I see here?

Q. No; look at anything you please that will answer the question. I am speaking not of an eight-hour period, but of days; I am speaking of the average tonnage of raw dolomite taken out of the quarry and put through the plant at Natividad.

A. Well, I didn't make any observation of the amount of material taken out of the quarry. All that I have here is a record of the amount fed to the kiln during the different periods when these tests were being made, and that amount, reckoned on an eight-hour basis, ranges from 127.88 tons down to 45.68.

Q. That is for eight hours, or one-third of a calendar day, is it?

A. Yes. May I correct this: The highest figure for an eight-hour period is 127.88 tons.

Q. That is raw dolomite, is it?

A. That is raw dolomite.

Q. Now, I know nothing as to the length of time that plant operates. How many hours a day does it operate?

A. The kilns ordinarily operate right through the 24 hours, on the average about 23 out of the 24 hours, unless a shutdown is necessary for [265] repairs, so that we might say at full operation for a 24-hour day, the quantity of raw dolomite fed might be of the order of 400 tons per kiln.

Q. Would you do that on a basis of multiplying the figures you have there by 3?

(Testimony of L. H. Duschak.)

A. For the eight-hour periods. These other quantities are for shorter periods.

Q. I am assuming that any place you find an eight-hour period there you multiply by 3, roughly, to get the day? A. That is right.

Q. That would be 400 tons per day ?

A. Approximately that, yes.

Q. That would be only one kiln, wouldn't it?

A. Yes.

Q. Wouldn't you have to multiply that result by two to get the whole plant?

A. If both kilns are running full blast, yes.

Q. Don't both kilns generally run?

A. Sometimes one is shut down; sometimes one is being used for other work.

Q. In any event, those tests there show only one kiln, and to show the operation of two kilns you would roughly consider them twins, wouldn't you, and multiply by 2? A. That is correct.

Q. Now, look in there and tell me the maximum amount of dust escaping from the top of the stack into the atmosphere in any eight-hour period during the time of the test.

A. I will have to do a little arithmetic here, because these results are stated for a 20-hour period, so that is—you ask for the largest amount escaping——

The Court: What is the objection to getting it in the [266] 24-hour period?

Mr. Naus: I beg your pardon?

(Testimony of L. H. Duschak.)

The Court: What is the objection to getting it in the 24-hour period?

Mr. Naus: None at all. I didn't realize it was in that form at the moment when I put the question. I will reframe the question.

Q. Tell me the highest amount of dust escaping into the atmosphere from the top of the stack of Kiln No. 2 during the period of this test in a period of 24 hours?

A. These figures I am about to state are from column 10 counting from the left on sheet 2 of this exhibit. The largest quantity shown there is 4230 pounds, which is the amount of dust escaping during a 24-hour period from the stack of No. 2 kiln.

Q. Yes. And with both kilns or both stacks——

The Court: That is 44?

Mr. Naus: Yes.

A. This was.

Mr. Naus: Q. Let me pursue that question. You are speaking now of a test made within roughly one week before this trial began in the month of September.

A. The first week in September, 1944.

Q. All right. And so far as you know it represents the condition existing at this very moment down at the plant? There has been no change that you know of, has there?

A. No, none that I know of. [267]

Q. That states it correctly, doesn't it?

A. Yes.

(Testimony of L. H. Duschak.)

Q. All right. So with 4200 pounds of dust escaping into the atmosphere from the stack of Kiln No. 1, then with both kilns and both stacks in operation we must assume, must we not, 8400 pounds of dust escaping into the atmosphere from the two stacks in one twenty-four-hour period?

A. As a maximum figure, yes.

Q. As a maximum figure and as an actual figure for a particular period of test, isn't that correct?

A. For one test period.

Q. All right. Doctor, assuming the same operation of running ore through the plant but before that Cottrell precipitator was installed and functioning, on the basis of these tests, what would be the total tonnage of dust escaping into the atmosphere from the top of the stacks in a 24-hour period?

The Court: Do you have in mind now 43?

Mr. Naus: Yes, your Honor. That is, that part of 43 before the precipitators were functioning.

A. If we assume that the kilns were operating at the same rate of feed as during the period of these tests, then the total quantity of dust escaping would be probably something like 80 or 90 percent of the total quantity of solids per 24 hours shown in column 12 on the second sheet of this report; that is, I would say it would be 80 or 90 per cent of values ranging from 52,000 to 72,940 pounds per twenty-four hours.

Q. For one stack? A. For one stack, yes.

Q. All right. Then from one stack before this

(Testimony of L. H. Duschak.)

precipitator [268] was functioning you would assume anywhere from 28 to 38 tons per day from one stack, is that correct?

A. If the kilns are operating at the same rate.

Q. I will come to that in a moment. But I have matters correct so far, haven't I?

A. Yes, correct.

Q. And for both stacks, both kilns, you would have to assume from 56 to 76 tons per day of dust escaping from the top of the stacks into the atmosphere, is that correct? A. Yes.

Q. And to follow that out, theoretically, at least, if you want to know the total escape of dust over any given number of days, you simply multiply those figures by the number of days, don't you?

A. If you make the assumption that the plant was running continuously at this high capacity.

Q. We will make that for the moment. Now, has that been a plant of continuous operation?

A. I am unable to answer that, because I haven't been receiving operating reports.

Q. So far as you know, and from any investigation or studies you have ever made, do you know or can you tell?

A. It is my impression that it is operated continuously.

Q. Continuously every calendar day, Sundays and holidays?

A. Oh, no, there have been shut-downs for repairs, shut-downs when the Cottrells were installed; there have been many occasions when no kiln or only

(Testimony of L. H. Duschak.)

one kiln was operating, and sometimes at reduced capacity.

Q. Out of 365 calendar days of the year, would it be fair [269] to assume that the both kilns operated 300 full days a year?

A. I am not prepared to answer that, because I haven't the information.

Q. You are not prepared to give any information about that, are you?

A. Not beyond what I have just given you.

Q. Doctor, when you went around with Mr. Garoutte, or, rather, under his guidance, in November, 1942, to find out what dust was around on vegetation, did you or not find both calcined and uncalcined dolomite?

A. I observed particles of uncalcined dolomite which could be very definitely identified by their crystalline character. I observed other particles which were of dull color, which I assumed were particles which had been calcined and then recarbonated by contact with stack gas and the atmosphere.

Q. And you observed those on vegetation, didn't you? A. Yes.

Q. Well, to the extent that in your examination—your field examination—let us say in November, 1924, showed these sparkling crystals or sparkling particles that had the crystalline character, did they come out of the top of the stack, or did they come from the quarry operation?

A. To the best of my knowledge and belief, they came from the top of the stack, because there was

(Testimony of L. H. Duschak.)

nothing in the quarry operation that would cause the dissemination of that very fine dust.

Q. Do you remember turning around on that witness stand yesterday and facing his Honor, Judge Roche, and telling him that after [270] it had gone through the stack it went back to its original chemical analysis, but changed physical form in that it was no longer crystalline?

A. I made that description of the particles which had been calcined.

Q. Yes.

A. That is, the particles of calcined material which had passed through the kilns and through the stack and into the atmosphere.

Q. Do you mean to say that raw dolomite goes through those kilns and through the stacks—any particle—and comes out uncalcined?

A. I mean to say that if a gas leaving the Natividad kilns, there are considerable quantities of raw, totally unaltered dolomite.

Q. Doctor, in that letter here you mentioned in one place the size of these particles. I presume you are speaking in scientific terms of the diameter of particles, the measurement? A. Yes.

Q. I will ask you this question: You may take a paper and pencil, if you wish, because I would like you to if you need to—how many of those particles of the size you speak of in the letter would be contained in one pound of that dust?

A. Well, that would involve quite a calculation. I will be glad to make it for you and report it later.

(Testimony of L. H. Duschak.)

Q. I would like to have it done, if you please, Doctor. I see it is 3:30. May I have the doctor give us that information tomorrow morning at 10:00 o'clock, so I can pass on to something [271] else? Would you have it by ten o'clock? A. Yes.

Q. Now, there is——

Mr. Moore: Pardon me, just a minute, Mr. Naus. Do you understand exactly what calculation Mr. Naus wants, Doctor?

A. If I may state my understanding of your request.

Mr. Naus: Yes.

A. It is for the number of particles of minus 325 mesh size of uncalcined dolomite.

Q. Let us clear it all up. I am trying to find the number of those fine particles as they come out of the top of the stack that are necessary to make one ponnd of dust. I am merely assuming, upon reading the letter, that you have measured the particles at some time and could have that as a starting point.

A. All that I stated in my letter was that a certain percentage was finer than 325 mesh, and went on to explain that many were as small as 10 microns. You will have to tell me what size you are interested in before I can tell you the number of particles per pound.

Q. Will you tell the number of particles per pound for each of the sizes mentioned in that letter? That will be two or three different results, apparently: or at least give us a range number.

(Testimony of L. H. Duschak.)

Mr. Moore: Let us get the sizes so that there is no misunderstanding.

A. I speak of 325 mesh particles, which is 0.046 millimeters in diameter; and I speak of many particles ranging from 5 to [272] 10 microns in diameter. That is 5 to 10 thousandths of a millimeter.

Mr. Naus: Yes. For each of those sizes, give me the number per pound separately, please. So far as you know at the moment, that is the size of dust that comes out of the top of the stacks now, isn't it?

A. No; this sample you referred to here was not comparable with the dust that is coming out of the stack now.

Q. What is the size of the particles of dust that come out of the stack now?

A. I haven't determined that.

Q. Have you any idea?

A. Yes, I think that on the average it is finer than the material referred to here.

Q. And when you say finer, you would express that in numerals how?

A. Probably in—I would describe the diameter of the particles in microns.

Q. Yes; and how many?

A. I couldn't answer that without an examination of the dust.

Q. I see.

A. But in a qualitative way, it would be my opinion that there would be a greater proportion of the minus 325 mesh in the present stack output.

Q. All I am asking you to do is to find the

(Testimony of L. H. Duschak.)

number of particles in a pound of dust. We have one approach that I have suggested. If you think of any other over night that is better use that as well.

The Court: Do you understand what he wants?

A. Yes, I think I understand what he wants.

The Court: All right. [273]

Mr. Naus: Q. In Plaintiff's Exhibit 2 we have an airplane view that I borrowed from Mr. Moore at the beginning of the trial to help his Honor understand the locality. Now, in looking at that we find one place that is called "Plant area." You recognize that as the area where the kilns and stacks are that we have been talking about?

A. Yes.

Q. Up hill from it there are two different places, one called "Bethlehem quarry" and the other called "Quarry area." From which of those two places thus legended is and has been the dolomite actually quarried?

A. From what is marked "Quarry area."

Q. Has any quarrying occurred at what is called there "Bethlehem Quarry"?

A. Yes, I think so. I was up at that vicinity on, I think, two occasions, and saw some evidence of quarry operations there, but I have no knowledge of them.

Q. Now, those quarries are up the hill from the kilns, aren't they?

A. Yes, they are at a higher elevation than the kilns.

(Testimony of L. H. Duschak.)

Q. About what is the elevation of the floor of those quarries above or below the top of the stacks?

A. Well, I have never measured that.

Q. Your estimate?

A. As regards the Permanente quarry area, it is my impresison that that quarry floor is roughly on a level with the top of the stacks.

Q. So any dust escaping into the atmosphere from those quarries would escape into that atmosphere at approximately the same elevation above the Pista ranch that dust escapes from the top [274] of the stack, is that correct?

A. That is correct, but that is only part of the story.

Q. Well, you have got a very able attorney here.

The Court: You may explain, if you wish.

A. The distinction which I wish to make is that the dust escaping from the stacks is carried by a stream of hot gas which tends to rise high in the atmosphere and to spread over a large area, whereas any dust formed in the quarry by some abrasive action or blasting is associated with air at ordinary atmospheric temperature and in general rises only a short distance above the point of origin.

Mr. Naus: Q. Has it traveled through the air sufficient distance to alight in the Pista orchard?

A. That would depend entirely on wind velocity and direction. It is conceivable dust from the quarry could blow onto the Pista ranch.

Q. Now, that dolomite is quarried dry there, is it not?

(Testimony of L. H. Duschak.)

A. Well, the dolomite is somewhat moist. If it is raining when it is quarried it is wet when it is quarried.

Q. Well, when it is not raining.

A. I don't know what you mean by "quarried dry."

Q. I will put it this way to explain what I mean: As a rock is blasted and falls to the floor of the quarry, or as it is lifted by the power shovel into a truck and dumped, or as it is dumped out of the truck into a stockpile, doesn't an exceedingly large, white cloud rise into the air?

A. There is some [275] cloud of dust produced, but I wouldn't describe it as a large white cloud.

Q. Well, how large would you describe it to be?

A. Well, we are dealing with something that it is rather hard to express in quantitative terms. It isn't a cloud of sufficient density to completely obscure objects beyond it, but it is a cloud that subsides rather quickly and does not, in general, travel for any great distance.

Q. This Defendant's Exhibit No. 10 shows a power shovel at a face of the quarry. Do you recognize it? A. Yes.

Q. Does the face of the quarry have to be broken down for the shovel to bite into, or does the shovel bite into it in its natural state?

A. No, the rock is usually broken by the use of powder before the shovel operates on it.

Q. So the first step in the quarrying operation is blasting, isn't it? A. Yes.

(Testimony of L. H. Duschak.)

Q. And when a hole or round of holes is shot off, does it raise a cloud there?

A. It throws up a little dust, yes.

Q. As the shovel picks up that broken dolomite and loads it into a truck, does a cloud of dust rise?

A. Well, there is some dust formed as the shovel dumps its load into the truck.

Q. Anyway, the broken down dolomite presently arrives at a rock crusher, doesn't it? A. Yes.

Q. And to what size has it broken down in there when it comes out of the rock crusher, what size is it?

A. I believe it is [276] minus one inch, although I think at times they crushed to minus two inches.

Q. It comes out of there in pieces?

A. In lumps.

Q. Lumps up to 1 or 2 inches in size?

A. Yes, ranging down to fine pieces.

Q. Are those lumps picked up in the next stage in the process and pulverized in any way?

A. No.

Q. What causes flow through these kilns laying along the ground?

A. I don't understand your question.

Q. I will put it this way: In this Defendant's Exhibit A—I think it is called a flow sheet—it presently shows dolomite flowing out of the crusher. From the crusher are those 1 and 2-inch lumps lifted up?

A. Yes, there is a belt conveyor system to a stock bin.

(Testimony of L. H. Duschak.)

Q. Is that an open belt conveyor out in the atmosphere?

A. I believe that is an unhoused belt conveyor, yes.

Q. And it is then dumped into what you call the stock bin? A. Yes.

Q. Just dropped down?

A. Well, it is—actually, it is dumped onto the stock pile in the bin. It is piled in the bin, and there is a tunnel running underneath the pile in which the belt conveyor operates and the material to be fed into the kiln is reclaimed from the stock pile by this conveyor.

Q. Then the material from that time on moves or flows horizontally, doesn't it?

A. No, the belt conveyor can carry it up at a considerable angle.

Q. Well, at what stage and how do these 1 and 2-inch lumps of dolomite become broken down or crushed into these minute particles?

The Court: When it goes into the furnace?

The Witness: You are referring now to the formation of these dust particles?

Mr. Naus: I am thinking of those——

The Court: Pardon me, so I may follow you. You are speaking of this material when it goes to the furnace?

Mr. Naus: Yes.

A. A belt conveyor carries it from the small stock bin from which it goes through weighing devices and then down and is fed into the upper end

(Testimony of L. H. Duschak.)

of the kilns in lump form, if you like—lumps ranging from a very small particle up to one or two inches; and if I understood Mr. Naus' question, it was as to the generation of these very fine particles.

Mr. Naus: Correct.

A. My answer to that is that they are formed within the kiln by the abrasion of the particles one against another, and they are mechanically moved in the kilns, and as a result of the action of heat, the flame, on the particles, on the lumps.

Q. That produces the dust. The product proper then goes through the whole process in one- to two-inch sizes, doesn't it?

A. Well, many of the larger lumps are broken up into smaller pieces, so that, in general, calcined material discharged from the [278] lower end of the kiln is smaller on the average than the feed.

Q. About what size is the final output?

A. Oh, I have seen particles half an inch in diameter; ranging from that down.

The Court: Q. After it goes through the kiln?

Q. Yes, the discharged material—the calcined material.

Mr. Naus: Now, this dolomite is very low specific gravity, isn't it?

A. It depends on what you would take as your standard of specific gravity.

Q. I will put it this way, perhaps concretely: What would be the cubic contents of a ton of it in its natural state and place in the quarry?

(Testimony of L. H. Duschak.)

A. I would have to work that out; I don't have that figure in mind. Its density as compared to water is something over 2; that is a cubic foot of dolomite will weigh something more than twice as much as a cubic foot of water. It will weigh perhaps a couple of thousand times as much as a cubic foot of air. So when you ask me whether it is heavy or light, I say you have to tell me what you wish me to compare it with.

Q. Compare it with granite.

A. With granite?

Q. What is the ratio?

A. I can't give you that off-hand. It is less dense than granite.

Mr. Naus: May I have this marked for identification, if the Court please?

(The photograph referred to was marked Plaintiffs' Exhibit No. 10 for Identification.)

Mr. Naus Q. I show you Plaintiff's Exhibit 10 for identification, a photograph that Mr. Harrington gave me some time back. You recognize that generally, do you not, as the stacks of the Permanente plant at Natividad? A. Yes.

Q. Now, have you ever observed issuing from the top of the stacks a white cloud of similar appearance to what you see there? A. Yes.

Q. All right. What does that white cloud consist of, the thing that gives it the color, the appearance of whiteness?

A. I presume that the whiteness is due entirely

(Testimony of L. H. Duschak.)

to the presence of minute particles of dolomite and some of these partially calcined particles or fully calcined particles that have been recarbonated.

Q. This gas you speak of is invisible in the atmosphere, isn't it, after it is discharged into it?

A. The carbon dioxide and nitrogen, and so on——

Q. Whatever gases you spoke of that were in this gas stream.

A. Yes, they are invisible; but very often there is enough water vapor in stack gas so that when it comes out to the outer air, it condenses and forms what we commonly know as a steam cloud. I couldn't say from observation whether part of that whiteness might not be due to what we commonly call steam.

Q. The dust as it comes out of the top of the stack in volume and appearance is like that photograph?

A. In a qualitative way, I think that is a fair representation. [280]

Q. I am asking about a quantitative way as well.

A. I can't answer looking at the photograph. There is nothing more deceptive than what we call smoke clouds. It all depends on the background. There are times when you can't see a very considerable cloud because of the background. If you use a different filter on your camera you will get a different contrast, so I am utterly unable to tell you qualitatively what this photograph means.

Q. I will put it this way: Assuming the plant

(Testimony of L. H. Duschak.)

down there running at a rate that caused 56 to 76 tons of dust per day to issue from the top of the two stacks, would that dust create the appearance of a white cloud something like you see in that photograph? A. Yes, something like that.

Q. Quantitatively and qualitatively?

A. When I qualify it by saying "something like that," I am not making a quantitative statement.

Q. As I understood it, you were not able to fix the dates of these other photographs that Mr. Moore put in evidence the other day?

A. No, I had nothing to do with the taking of them. [281]

Q. Now, you were handed here about two o'clock Plaintiffs' Exhibit 8 for Identification; that is the monograph that you referred to earlier today as the one you had read and studied with respect to the effect of dust on bloom, isn't it?

A. I didn't refer to it as a monograph; I referred to it as an article.

Q. That is a monograph, isn't it, and it is also an article, isn't it?

A. It is simply one of a number of articles that appeared in a certain volume of a certain journal. We don't ordinarily call those monographs. It is immaterial; you can call it a monograph if you like.

Q. If you would rather call it an article I will call it an article. Is that the article you are referring to? A. Yes.

Q. As I recall it, it is the only one that you re-

(Testimony of L. H. Duschak.)

ferred to this morning. Was there any other that you studied?

A. Oh, I referred to a number of publications of the California Department of Agriculture—that is, the University of Agriculture.

Q. But you recall you did not refer to a single one from that source that dealt specifically with the study of the effect of dust upon bloom?

A. That is correct.

Q. Now, you recall, don't you, that this article here, Plaintiffs' Exhibit 8 for Identification, is the only article you have thus far identified as dealing specifically with the effect of dust on blooms?

A. That is correct. [282]

Q. Do you know of any other?

A. No, I do not.

Q. All right. Then in all the reading and study that you have made of this subject preparatory to answering Mr. Moore's questions this morning, this article now in your lap, the exhibit for identification, is the only article you ever read or studied in your life on the subject dealing specifically with such a study, isn't it?

A. Well, if you are limiting your question to the effect of dust on the blossoms of certain fruit trees—if that is the meaning of the question, the answer is Yes, this is the only article that I have perused on that subject.

Q. And you have never made any study within the field of that article—any personal study or experiments?

(Testimony of L. H. Duschak.)

A. No, I have never made any experiments.

Q. Do you agree or disagree with the opinions, conclusions, and statements of the author of that article?

A. I would agree with some, and I think I might take exception to some.

Q. As a matter of fact, that article relates to cement dust, doesn't it? A. Yes.

Q. Aren't the main ingredients of the substance that produces the cement dust present in dolomite?

A. No, only one.

Q. Which one do you have in mind?

A. The calcium. There are other ingredients in cement dust.

Q. All right. The author of that article is Anderson? A. Yes. [283]

Q. Doesn't Anderson trace the injurious effect of the cement dust upon fruit tree blossoms to the calcium ingredient?

A. The calcium in the form of calcium hydroxide; that is, in its caustic form, if you like. And he states further that when that calcium hydroxide has absorbed carbon dioxide and become neutralized, that it doesn't interfere appreciably with the dissemination of the pollen.

Q. Getting back to my question, I am trying to find the ingredient of the substance that produces cement dust that Anderson traces the injurious effects to, and the answer is calcium carbonate, isn't it?

A. No, the answer is calcium hydroxide.

(Testimony of L. H. Duschak.)

Q. To calcium carbonate in the ore itself?

A. I beg pardon?

Q. It is calcium carbonate when mined or quarried in the first instance?

A. Yes, the raw material from which cement is made includes calcium carbonate—limestone.

Q. And you find this calcium carbonate or raw material in this dolomite mined in Natividad?

A. Yes, calcium carbonate is one of the constituents of dolomite.

Q. One of the two major constituents, isn't it?

A. Yes.

Q. Now, in Anderson's study, wasn't that raw material simply calcined or roasted to produce cement dust?

A. The limestone was mixed with other materials and finely ground, and then fed into a kiln for the purposes of burning.

Q. As a matter of fact, isn't the simple statement of the [284] process the breaking down of the raw material that produces the cement dust—the breaking down of the raw material out of the quarry, and to use a chemical term, it was calcined, or a metallurgical term, it was roasted?

A. No. The essential in cement-making is the formation of the clinker causing the silica, alumina and iron and calcium to combine in certain forms. The calcination is an intermediate step.

Q. Nevertheless you will agree with this statement: that Anderson, after the full study that he made and experiments and tests that he made, in

(Testimony of L. H. Duschak.)

tracing out the source of injury to fruit orchards, traced it to the substance that was originally calcium carbonate in the quarry? A. Yes.

Q. Now——

A. May I make a little further explanation? I would rather say that Anderson showed that a substance which could be produced from the calcium carbonate of the quarry was, in his opinion, responsible for failure of pollen to grow in certain circumstances.

Mr. Naus: Well, I will offer the article if there is any question as to what Anderson says.

Mr. Moore: I have no objection.

Mr. Naus: I ask that the reading be waived at this time.

Mr. Moore: Yes.

(Plaintiffs' Exhibit 8 for Identification was received in evidence.) [285]

PLAINTIFFS' EXHIBIT NO. 8

THE EFFECT OF DUST FROM CEMENT MILLS ON THE SETTING OF FRUIT

Paul J. Anderson

Cornell University, Ithaca, N. Y.

Fruit growers in the vicinity of Hudson, New York, in the spring of 1910 complained that their crops were seriously damaged by dust from large cement mills which had recently been located there. They noticed particularly a decrease in the amount

(Testimony of L. H. Duschak.)

Plaintiffs' Exhibit No. 8—(Continued)

of fruit that was set on trees within the dust zone. They also feared permanent injury to the foliage and young shoots. The investigations recorded below were undertaken in order to determine the nature and extent of the alleged injury and, if possible, to find a remedy.

Appearance of the foliage. The foliage in the dust zone is covered with a fine, gray, gritty dust mixed with minute black granules (evidently cinders). The coating is heavier near the mills but is plainly noticeable at a distance of two miles. A greenhouse located a mile away was so heavily coated within a month after the plant started operations that the passage of light through the glass was seriously interfered with. Hard rains wash the coarser part of the dust from the leaves and while they are wet they appear green, but, on drying, become white again from a thin film which cannot be washed off. On a rigid surface, however, such as a greenhouse roof, the dust collects and sets very rapidly, forming an opaque covering which can be removed only by the use of acid. Under certain weather conditions the same hard crust is formed on the leaves and remains on them throughout the season.

Source of the dust. That the dust comes from the mills—not from the roads or soil—is evident from the following considerations: (1) It is found nowhere else except in an area about the mills; (2) it falls just as heavily when the ground is

(Testimony of L. H. Duschak.)

Plaintiffs' Exhibit No. 8—(Continued)

soaked and the roads muddy from hard rains; (3) it does not look or feel like road dust; (4) it gives an alkaline reaction with phenolphthalein, which is not true of any other dust sample collected in that county; (5) its chemical composition (given below) shows it to be a partially burned dust.

A study of the mills in operation showed that there were two main sources from which a large amount of dust came: (1) The crushing pulverizing and drying mills, where the raw mixture of limestone and shale is reduced to an extremely fine,

(Testimony of L. H. Duschak.)

Plaintiffs' Exhibit No. 8—(Continued)

TABLE I.

CHEMICAL ANALYSIS OF DUST SAMPLES

	Cement Dust From Pulverometer	Cement Dust From Raspberry Bushes	Road Dust	Road Dust (Macadamized)	Soil Near Pulverometer	Atlas Portland Cement
*Number of sample.....	1442	1452	1453	1495	1451	
Silica (SiO ₂)	20.32	21.14	61.06	40.60	75.42	23.50
Iron and alumina (Fe ₂ O ₃ + Al ₂ O ₃)	10.52	11.26	10.86	8.66	13.90	10.04
Lime (CaO)	42.25	44.12	10.83	24.05	0.93	62.08
Magnesia (MgO)	1.02	1.04	2.26	1.30	2.30	1.23
Sulfur trioxide (SO ₃).....	1.24	0.27	0.15	1.85	0.13	1.63
Loss by ignition.....	22.49	20.33	13.20	23.40	5.86	1.30
Total	97.84	98.16	98.36	99.86	98.54	99.17
Carbon dioxide (CO ₂)	not determined	12.10	not determined	18.90	not determined	
Insoluble (in hot HCl).....	21.00	19.41	70.96	50.59	90.07	not deter- mined

* Sample book of the chemical laboratory of the Atlas Portland Cement Company, Hudson, New York.

(Testimony of L. H. Duschak.)

Plaintiffs' Exhibit No. 8—(Continued)

dry powder (technically called composition); (2) the stacks of the kilns in which the composition is burned and fused to clinker (unground cement). The second is undoubtedly the principal source of the dust on the foliage because: (1) The strong draft in the kilns, produced by the burning, powdered coal and air forced in below under a pressure of 100 pounds to the square inch, must necessarily carry some of the dry, fine composition dust out of the top of the stacks; (2) the distance to which the dust is carried points rather to the high kiln stacks and forced ejection rather than the low pulverizing and drying mills; (3) chemical analysis shows that the dust on the foliage has been partially burned.

Amount of the dust. A simple "pulverometer," for collecting and measuring the amount of dust, was made by supporting upright a large tin funnel (2 feet in diameter at the top) with a detachable, tight-fitting, glass cylinder at the bottom, into which the dust collected or was brushed down from the sides of the funnel. From the amount of dust caught in the cylinder (knowing the area of the mouth of the funnel) it is easy to calculate the amount of dust that falls on an acre. An average record (August 22, 1910) when the wind was blowing toward the pulverometer, gave 167.6 pounds of dust deposited on an acre in twenty-four hours, or $2\frac{1}{2}$ tons of dust per acre in a month. But actually, no acre in the vicinity of the mills receives this

(Testimony of L. H. Duschak.)

Plaintiffs' Exhibit No. 8—(Continued)

TABLE II.

Analysis of Cement Dust Collected in the Pulverometer
August 22, 1911.

Analyzed by Prof. Enrique Touceda

		Soluble in Water	Insoluble in Water
Silica	21.94	0.23	21.27
Iron and alumina	9.10	0.44	8.73
Lime	46.65	7.81	38.99
Magnesia	1.17	0.078	1.10
Carbonic anhydride	17.50		
Comb. water and organic	3.64 by dif.		
	<hr/>		
	100.00%		

amount because the wind does not blow constantly from one direction.

Chemical analyses. Numerous chemical analyses were made of the dust collected as above and also of dust shaken from the raspberry bushes a quarter of a mile distant from the mill. Average samples of these analyses are given in table I (samples 1442 and 1452). For comparison, there are also included in this table analyses of (1) soil near the pulverometer, (2) average sample of Portland cement, (3) two samples of road dust, No. 1453 a road dust sample taken at random near the mills, and No. 1495 from a recently macadamized road where the percentage of limestone was high.

Table II gives an analysis of cement dust collected from the same locality and analyzed by Prof. Enrique Touceda of the Troy Polytechnic Institute.

Three points should be noticed in these analyses:

(Testimony of L. H. Duschak.)

Plaintiffs' Exhibit No. 8—(Continued)

(1) The soil and road dust sample show such striking differences from cement dust in the proportion of constituents that neither of them could possibly be the source of the dust on the leaves; (2) a large part of the limestone in the cement dust has had the carbon dioxide removed and the lime is left in the caustic condition. Sample 1452, for instance, contains 12.10% of carbon dioxide. If the lime and magnesia here were in the form of a natural limestone i.e., calcium and magnesium carbonates, as they are in the road dust sample 1495—the dust should contain 37.78% of carbon dioxide. In other words, over two-thirds of the limestone has had the carbon dioxide removed from it—a condition which could be brought about only in the kilns. (3) Nearly 8% of the dust is lime that is soluble in water. The soluble lime is the cause of the extreme alkalinity of the dust and, as will be indicated below, is probably the source of injury to the fruit blossoms.

Less fruit on the dusted side of the trees. Our first observations were in the summer of 1910. During the entire blooming season of that year, a continuous south wind blew the dust from the mills onto a cherry orchard where our laboratory was established. The blossoms on the south side of the tree were literally plastered with dust while those on the north side were more or less protected. When the fruit was about half grown, the number of cherries on each side of eighteen trees were

(Testimony of L. H. Duschak.)

Plaintiffs' Exhibit No. 8—(Continued)

counted and there was found to be 29% more fruit on the north side than on the south side of the trees. The same number of trees outside the dust zone were counted as a check and it was found that there was a difference of only 2.2% in the number of cherries on the south and north sides and that in favor of the south side. This led us to suspect that the dust did in some way influence setting of the fruit.

Dusting experiments. During the blooming season of the next year (1911) the mills were temporarily closed. Therefore it was necessary to depend on artificial dusting for our experiments. This however was really an advantage since it offered the opportunity of having dusted and untreated check blossoms all on the same tree, making the conditions entirely equal. Sweet cherry, sour cherry, pear and apple trees were used. Two branches were selected from each tree which were as near alike in size, position, etc. as could be found. Cement dust, which had been collected from foliage the previous summer and had been kept in air-tight bottles, was blown over the blossoms of one of the branches as soon as they opened, while the blossoms on the other branch were left untreated. When the fruit was about half grown, the number which had set on each branch was counted. The cherries and pears were dusted twice each day; the apples on the other hand, only at irregular intervals. The results from the latter are included in the table

(Testimony of L. H. Duschak.)

Plaintiffs' Exhibit No. 8—(Continued)

TABLE III.

Shows the Number of Treated and Untreated Fruit Blossoms Which Set Fruit

	Dusted			Untreated		
	Blossoms	Fruit set	Percent	Blossoms	Fruit set	Percent
Sweet cherries	1618	24	1.48	1767	582	32.93
Sour cherries	1536	122	7.94	1975	1287	65.16
Pears	2908	11	0.37	3181	587	18.43
Apples	1126	67	5.95	1507	752	49.90

below to show that even an occasional dusting is injurious. In each case, ten to twenty branches were treated, but in the table, the total number of blossoms is given for all the branches that received the same treatment.

From Table III it will be seen that only a very small percentage of the blossoms that had dust blown over them set fruit. It will be asked why any of the fruit at all set when the blossoms were all dusted. In the first place, all of the blossoms may not have been reached by the dust. In the second place it is known that the growth of the pollen tube is very rapid in warm weather and it is quite likely that some of the blossoms were already fertilized when the dust was applied. It is not certain but that in the latter case the fruit would set normally.

It should be mentioned in this connection that for some time after the falling of the petals, no difference could be observed between fruits on treated and untreated branches. Both kinds grew

(Testimony of L. H. Duschak.)

Plaintiffs' Exhibit No. 8—(Continued)

at the same rate. Often it was ten days to two weeks after blooming before any difference became noticeable. Then the unfertilized fruit stopped growing and soon dropped.

Nature of the injury. Having demonstrated that dust did prevent setting of fruit, the next question to arise was: what is the injurious constituent in the dust and how does it act on the flower? A "cement dust solution" was made by shaking up a quantity of dust in distilled water and then letting it set for several hours in order to allow any soluble parts to go into solution. This was then filtered and the filtrate applied to the flowers as a spray. It prevented setting of fruit almost as effectually as the cement dust itself. As indicated by the analyses there is only one thing in the dust that goes into solution to any appreciable extent and that is lime. It was reasonable then to infer that the latter was the injurious part of the dust. A solution of pure lime was made and applied in the same way. The results were the same as those secured by spraying the flowers with cement dust solution.

In another series of experiments, the blossoms of some large lillies in the greenhouse were used. Cement dust was applied to the stigmas only and then they were pollinated by hand. Checks were pollinated but not dusted. One hundred per cent of the checks set but none of those flowers which were dusted produced seed. From these experi-

(Testimony of L. H. Duschak.)

Plaintiffs' Exhibit No. 8—(Continued)

ments it was concluded that the lime of the dust affected the stigma or the stigmatic secretions in such way as to interfere with fertilization and thus prevent setting of the fruit.

It is a well known fact that the stigmatic secretions of most plants are acid in character. One may easily demonstrate this point by moistening a piece of blue litmus paper and merely touching it with the stigma of a cherry blossom. A pink spot will appear on the paper at every point touched. If a minute quantity of the cement dust is placed on the stigma, however, it no longer gives this reaction but becomes alkaline due to the lime which is dissolved in the secretions. This is what takes place when the dust from the mills settles over the orchards. What is the effect of this change on germination of pollen? Will pollen germinate at all in an alkaline calcium solution? To determine this point, artificial pollen germination tests were made.

Pollen germination tests. The method used for germination was this: A definite weight of cement dust, collected from the leaves, was placed in a flask and a measured volume of distilled water added, well shaken and permitted to stand over night, then filtered. After determining the strength of sugar solution required—differing for almost every species tried—the required weight of saccharose was dissolved in the filtrate. Check solutions of saccharose of equal strength were made in the same way

(Testimony of L. H. Duschak.)

Plaintiffs' Exhibit No. 8—(Continued)

TABLE IV.

Shows Results of Comparative Germination Tests of Sweet and Sour Cherry Pollen in Cement Dust Solution and Check Sugar Solutions. Strength of Dust Solution 1-170 Cherry Pollen.

Strength of Sugar Solution	Check		Cement Dust	
	Sweet Cherry	Sour Cherry	Sweet Cherry	Sour Cherry
2%	7%	8%	0	0
3%	9%	13%	0	0
4%	13%	17%	0	0
5%	19%	27%	0	0
7%	17%	23%	0	0
10%	17%	29%	0	0
12%	18%	7%	0	0

by using distilled water instead of the dust solution. Pollen from freshly opened anthers was put in drops of these solutions on slides in moist chambers. Checks were always run on the same slide as the tests in order to make conditions the same.

Cherry pollen. The first artificial germination tests were made during the winter of 1910-11. Twigs of both sweet and sour cherry were brought into the greenhouse and placed in a jar of water, where they bloomed. In testing the pollen thus secured, various strengths of sugar solutions were used in a solution of the cement dust 1-170 (i.e., 1 g. of dust to 170 cc. of water). The results are given in Table IV.

During the blooming season of 1911 the experiments were repeated with pollen which matured naturally on the trees. The results practically duplicated those given above. The writer has not been

(Testimony of L. H. Duschak.)

Plaintiffs' Exhibit No. 8—(Continued)

able to explain satisfactorily the low percentage of germination in the checks. A possible explanation is that they required an acid solution, while we were using a neutral one. No germination whatever was secured in the cement dust solution.

TABLE V.

Shows Apple Pollen Germination. Counted
After Eighteen Hours

Strength of Sugar Solution	Cement Dust Solution 1-100		Distilled Water Check	
	Per cent germination	Length of tubes	Per cent germination	Length of tubes
2%	0	0	64	6
5%	0	0	67	7
7%	0	0	76	7
10%	3	3	98	25
12%	1	2	95	20
15%	0	0	87	15
17%	0	0	83	15
20%	0	0	63	10
25%	0	0	53	4

Pear pollen. Better success was obtained in artificially germinating the pollen of pears. Solutions of 20, 22 and 25% saccharose were used and between 65 and 75% germination was constantly secured in the checks but none at all in the 1-100 cement dust solution.

Apple pollen. This was the most satisfactory set of experiments. The blooming season of the apple is longer and gave more opportunity for an extended set of experiments. Table V shows the results of tests where various concentrations of saccharose were used. The optimum concentration, as

(Testimony of L. H. Duschak.)

Plaintiffs' Exhibit No. 8—(Continued)

indicated here, was 10%. This concentration was therefore used in the further tests. Germination in the dust solution of 1-100 was practically nil.

Table VI gives the results of tests in which the concentration of the dust solution was decreased to 1-300. Even here there was very little germination.

Calcium a toxic agent. It has been mentioned previously that in the writer's opinion it is the alkaline calcium salt which presents germination. That such is the case is very strongly indicated by the following experiment. When a drop of the cement dust solution is permitted to remain exposed to the air for an hour or two, the greater part of the calcium crystallizes out in the form of calcium carbonate. If tested when exposed, the drop gives an immediate alkaline reaction with phenolphthalein; several hours later there is no reaction, showing that the carbon dioxide of the air has completely neutralized the alkaline salt. Now if the pollen grains are put

TABLE VI.

Tests With Various Concentrations of the Cement Dust Solutions. All Solutions of 10% Saccharose. Checks Same as the 10% Solution in the Preceding Table.

Strength of Solution	Percent Germination	Length of Tube
1-100	2.5	1.5u
1-150	2.0	4.0
1-200	3.0	5.0
1-250	3.5	4.0
1-300	4.0	3.0

(Testimony of L. H. Duschak.)

Plaintiffs' Exhibit No. 8—(Continued)

to germinate at once there is practically no germination, as given in the table above. If, however, the drop is allowed to stand until neutralization occurs and the pollen then put in, it germinates almost as well as the checks. Numerous tests of the substance which crystallized out failed to show anything present except calcium carbonate. If then this is the only substance which it is necessary to remove in order to get germination, the conclusion is inevitable that this is the toxic substance. It must not be understood, however, that all the calcium crystallized out. Even after remaining exposed to the air for a long time, some calcium in the solution can be brought down with ammonium oxalate. This calcium is probably in the form of bi-carbonate and therefore gives no reaction with phenolphthalein, nor does it seem to be toxic to the apple pollen. In fact apple pollen germinates in tap water which contains a relatively large amount of calcium almost as well as it does in distilled water.

Raspberry. This was not the case with the raspberry pollen which was next used. When the solutions for this experiment were made with tap water, 18% germination of the grains was secured, while with distilled water 83% germinated. The germ tubes in the former were not as long nor as vigorous. Tests of this same pollen were made in the water after the calcium had been crystallized out as previously, but here the germination was reduced to 11%; this shows quite a different result

(Testimony of L. H. Duschak.)

Plaintiffs' Exhibit No. 8—(Continued)

from that obtained with the apple pollen. In this case the calcium is evidently toxic whether in the caustic condition or not.

The raspberry pollen experiments were to determine two points: (1) How weak a solution of the cement dust will prevent germination? (2) How weak a solution of calcium oxide will prevent germination? Raspberry pollen germinated very readily in 30% saccharose. No check gave less than 90% germination. Solutions of the cement dust were made up 1-500, 1-700, 1-800, 1-1000, 1-1200, 1-1500, 1-1600, 1-1800, and 1-2000. After filtration these were used to make 30% saccharose solutions. Up to 1-1500 there was no germination except for an occasional short tube. Above this, slight germination occurred, reaching 6% in the 1-2000 solution. But even here the tubes were rarely more than four times as long as the diameter of the grain, while in the checks in the same period of time, they were thirty times the diameter of the grain. The results of the second series is given in the following table.

TABLE VII.

Shows the Comparative Germination of Red Raspberry Pollen in Different Concentrations of the Cement Dust Solution

	Strength Ca (OH) ₂							
	0.1	0.2	0.05	0.02	0.01	0.005	0.002	0.001
Per cent of germination	0	0	0	0	0.5	1.5	3.0	7.0

An extremely small amount of lime is evidently sufficient then to prevent germination. The writer

(Testimony of L. H. Duschak.)

Plaintiffs' Exhibit No. 8—(Continued)

had hoped to test out all the other constituents of the dust but has not found opportunity to do so. It is possible that other substances in the dust may go into solution in the acid stigmatic secretions to an extent sufficient to prevent pollen germination. Whether this be so or not, it is certain that the injury from the lime alone is sufficient to account for the damage.

Work of Professor Beach. There should be mentioned at this point the work of Professor Beach¹ who investigated the effect of spraying fruit trees in bloom. Artificial germination tests in the laboratory were used here also. Two paragraphs are quoted from Professor Beach's bulletin in which are given the results of his investigation.

From page 433 of that bulletin:

From these investigations it appears that if before pollination occurs, the stigmatic surface of the pistil should be covered either with bordeaux mixture alone or with arsenical poison alone, of the strength commonly used in spraying orchards, there would be no germination of any pollen which might afterwards reach the stigmatic surface and so fertilization would be prevented and no fruit would be formed. Even the presence of lime alone, of the strength commonly used in spray mixtures, prevented the germination of pollen. Bordeaux mix-

¹ Beach, S. A. and Bailey, L. H. Spraying in bloom. New York (Geneva). Agr. Exp. Sta. Bull. 196. 1900.

(Testimony of L. H. Duschak.)

Plaintiffs' Exhibit No. 8—(Continued)

ture was diluted in aqueous sugar solution to 500 parts, 200 parts, 100 parts, 50 parts, 2 parts, and 1 part in 10,000 of culture media into which various kinds of pollen were introduced. Even when diluted to 50 parts in 10,000 it prevented germination to large extent and where germination did occur the growth which followed was decidedly slow and the pollen tubes were dwarfed. When diluted to 100 parts, 200 parts, or 500 parts either no germination or practically none was found.

Also on page 442:

In the tests where the trees were sprayed repeatedly during the blooming season so as to hit as many as possible of the new blossoms which opened from day to day, but very few blossoms survived the treatment and consequently but little fruit set. This shows that the ordinary spray mixtures surely prevent the setting of fruit when applied to the blossoms soon after they open.

The principle apparently is the same in these cases as in that of the blossoms covered with cement dust, i.e., lime is the toxic ingredient. About the only difference between spraying the flowers with these mixtures and dusting them with cement dust is that in one the lime is in water while in the other it is dry.

SUMMARY

We may briefly summarize the results of the investigation:

1. Dust from the cement kiln stacks settles on

(Testimony of L. H. Duschak.)

Plaintiffs' Exhibit No. 8—(Continued)
the vegetation within a radius of two miles from the mills.

2. This dust contains a large amount of alkaline, soluble calcium salts.

3. When the dust falls on the fruit blossoms some of it goes into solution in the stigmatic secretions and pollen falling on the stigma will not germinate. Thus the flowers will not be fertilized.

4. Artificial germination tests show that pollen will not germinate even in very weak solution of the dust.

5. When the blossoms are dusted as fast as they open, only a very small percentage sets fruit.

[Endorsed]: Filed 9-14-44.

Mr. Naus: Q. As you sit there today, and after any and all research you may have made, are you able to assist this Court at this time by pointing to any other published study of the effect of dust falling upon a fruit orchard?

A. No, I think not.

The Court: You mean any other publication?

The Witness: Well, I understood Mr. Naus' question to refer to this limestone dust. I could refer to publications dealing with the effects of smelter dust.

Mr. Naus: No, not smelter dust.

(Testimony of L. H. Duschak.)

The Witness: Well, I understood your question to mean——

Mr. Naus: Q. Cement, dolomite dust, and that kind of dust.

A. Yes, I understood your question to be restricted.

Q. I don't mean gas fumes; I mean dust.

A. I am talking about dust that comes from smelters—from copper and lead smelters. There are publications dealing with that subject.

Q. That gets into the field of something else.

A. Those are dealing with materials other than those we have been discussing here.

Q. Are you familiar with Heald's "Manual of Plant Diseases"? I am trying to keep this open at one page, 201.

A. Yes, I have seen the volume. I would hardly say that I was thoroughly familiar with it.

Q. Is it a sound book?

A. I think it is regarded as one of the standard works on the subject. [286]

Q. It is one of the texts in that field, isn't it—teaching texts? A. Yes.

Q. Now, I invite your attention to Chapter X beginning on page 201, including the bibliography at the end which refers only to Anderson, and ask you whether or not——

Mr. Moore: Pardon me, Mr. Naus. Are you offering it or having it marked so that in cross-examining we can see it?

(Testimony of L. H. Duschak.)

Mr. Naus: I was just in the middle of framing a question which I had not completed.

Q. After drawing your attention to that I will ask you if you consider that Heald's teaching text is misguided or erroneous in accepting Anderson's study as the basis of modern university and college teaching on the subject.

Mr. Moore: I am going to object to the question as argumentative, your Honor.

The Court: Anything that would assist the Court in any way in connection with the problem which is presented is allowable.

Mr. Moore: I will withdraw the objection.

Mr. Naus: May I have the question read, your Honor?

The Court: Read the question.

(Question read.)

A. I am inclined to think that you are assuming something somewhat contrary to the fact in saying——

Mr. Naus: I don't think so. [287]

Mr. Moore: Please let the witness reply.

The Court: Let him finish.

A. (continuing)—that Heald adopts that as the basis of teaching. I haven't yet read this chapter.

Mr. Naus: Q. Just that one page is all you need to read.

Mr. Moore: You asked him his expert opinion. Give him a chance to read it.

Mr. Naus: Mr. Moore, he can take the book home and sleep with it. I don't want to rush him.

(Testimony of L. H. Duschak.)

Mr. Moore: That is just the reason I ask that it be put in evidence and be marked.

Mr. Naus: The book doesn't belong to me; otherwise I would.

Mr. Moore: I will agree that it may be withdrawn, but I do think if you are examining the witness in regard to a certain text, whether the book belong to you or not, it ought to be introduced.

Mr. Naus: It is a book that can be introduced now?

Mr. Harrington: I promised to return it.

Mr. Naus: Immediately? He seems to be in doubt, so I will ask that the book be marked for identification. Be it on his own head. Then it will be available for everyone.

Mr. Moore: Then I will ask that the Doctor be given time to read it over.

The Court: It is nearly time for adjournment.

Mr. Naus: He will have some reading and some figuring to do.

The Court: Is this the only book that you are going to give him?

Mr. Naus: Yes, that is all.

Mr. McCarthy: We have a copy of it, your Honor.

Mr. Moore: We have a copy of it. I didn't know it.

Mr. Naus: Would you rather mark yours?

Mr. Moore: It doesn't make any difference.

The Court: Unless you can get through with this witness——

(Testimony of L. H. Duschak.)

Mr. Naus: That couldn't possibly happen, because he still has some figuring, for one thing.

The Court: I was wondering as to the enumeration of the three problems you have got—being limited in my mathematics as well as my chemistry—how long will that take you?

The Witness: Oh, I should be able to do that in fifteen or twenty minutes. That is, those three problems on the number of dust particles. It is simple arithmetic, which I think Mr. Naus could do himself if he chose.

Mr. Naus: I know, but then, you see, I am not under oath.

The Court: There are very few things that he can't make a pretty good try at.

Mr. Naus: I am one of these ambulance chasers that letter refers to, going around and getting these farmers as clients.

The Court: We will take an adjournment. [289]

The Court: Suppose we mark your book for identification and let him take that one home and read it.

Mr. Moore: It doesn't make any difference. I didn't know Mr. McCarthy had it.

Mr. Naus: I ask that Mr. Moore's book be marked for identification.

(The book was marked Plaintiff's Exhibit No. 11 For Identification.)

(Thereupon an adjournment was taken until tomorrow, Friday, September 15, 1944, at 10:00 a.m.) [290]

No. 11019

United States
Circuit Court of Appeals

For the Ninth Circuit.

THE PERMANENTE METALS CORPORA-
TION, a corporation,

Appellant,

vs.

B. PISTA AND MARIE PISTA,

Appellees.

Transcript of Record

In Two Volumes

VOLUME II

Pages 377 to 727

Upon Appeal from the District Court of the United States
for the Northern District of California,
Southern Division

FILED

SEP 8 - 1945

PAUL P. O'BRIEN,
- CLERK

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Upon Appeal from the District Court of the United States
for the Northern District of California,
Southern Division

Friday, September 15, 1944,

10:00 O'clock A. M.

The Clerk: Pista vs. Permanente Metals.

Mr. Moore: I mentioned yesterday, your Honor, that I had several witnesses from out of town whom I would like to put on the stand out of order.

Mr. Naus: I have informed Mr. Moore, particularly in view of transportation, hotel conditions, and the like, that I would leave it entirely in his hands, the order of his witnesses, or whether he draws any temporarily from time to time. He can have it just as he pleases.

Mr. Moore: Thank you. Before calling them, I showed Mr. Naus yesterday certain documents which he has had a chance to examine, and he says he makes no objection to their introduction.

Mr. Naus: I would say, Mr. Moore, there was one document of several pages which you gave me full opportunity over night to have in my possession and study, and I told you this morning if you decided to offer it I would make no objection to it.

Mr. Moore: We will offer this, if your Honor please. I will have it marked and then I will state in general what it is without detailing it.

(The document was marked Defendant's Exhibit L in evidence.)

Mr. Moore: This document, which consists of some seven pages, with accompanying maps or diagrams, is from the War De- [291] partment of the United States Government. There is a letter of enclosure which is dated May 14, 1942, addressed

to the Permanente Metals Corporation, 1522 Latham Square Building, Oakland, California.

“Subject: Necessity certificate, File No. WD-N7455 Date of Issue: May 12, 1942”

This letter states in substance that there is transmitted a certificate issued by direction of the Undersecretary of War pursuant to section 124 of the Internal Revenue Code, Title III, section 302 of the Second Revenue Act of 1940, as amended, in response to your application therefor.”

It states that,

“The original of this certificate has been transmitted on this date to the Commissioner of Internal Revenue.”

This is signed by J. T. Ashworth, First Lieutenant, Specialist, George H. Foster, Lieutenant Colonel, Signal Corps, Chief, Tax Amortization Section, Fiscal Division.

Accompanying that is a document dated May 12, 1942, bearing the same number, WD-N7455, headed, “War Department, Necessity Certificate.

“To the Commissioner of Internal Revenue:

“Pursuant to section 124 of the Internal Revenue Code, particularly subsection (f) thereof, and in response to the application filed by the Permanente Metals Corporation, Oakland, California. [292]

“It is hereby certified that the facilities described in the attached Appendix A (consisting of five pages and two drawings) are necessary in the interest of national defense dur-

ing the emergency period, up to 100 percent of the cost attributable to the construction, reconstruction, erection, installation or acquisition thereof, and that the application for this certificate was filed on March 30, 1942.

“By direction of the Undersecretary of War:

GEORGE H. FOSTER,

Lieutenant Colonel, Signal Corps, Chief, Tax Amortization Section.

“Certified true copy, signed, J. T. Ashworth, First Lieutenant, Specialist, Office Assistant, Tax Amortization Division.”

Accompanying that is a copy of the application as Appendix A, on which the name of the corporation is stated, the location of the facilities, there is a legal description of the property, which is in Monterey County, and the quarry property. Accompanying also as a part of the exhibit is a summary of estimated cost of this particular plant, which covers, without detailing them or the amounts—I do not think that is necessary—the quarry equipment, the raw materials preparation, kiln department, utilities, including water supplies, administration building, warehouse building, finished material storage, repair shop, railroad spur, general, portable tools and equipment, quarry [293] property; also auxiliary equipment, piping, wiring, buildings, and machinery, and accompanying are two drawings which are part of the exhibit.

Mr. Naus: If the Court please, I will state on examining that, or I think your Honor on ex-

amining it will find what it amounts to is this—this is my theory of it anyway, Mr. Moore is not bound by it: Under the Second Revenue Act of 1940, enacted in October, 1940, there was added to the Internal Revenue Code a new section numbered 124. It had to do with the matter of amortizing depreciation, obsolescence and the like. It gave to any person who acquired or owned a plant an election either to claim his depreciation, obsolescence and the like under the ordinary rules over a long period of years, or at his election, to come in under this section to establish or claim a right to advertise over a period of 60 months, a short period of 60 months rather than the ordinary period under the normal sections. To make one eligible under that section to elect to amortize over a period of 60 months, one of the subdivisions of the section required a particular type of certificate from either the Secretary of War or the Secretary of the Navy. This document Mr. Moore has offered in evidence is, I take it, the certificate of the Secretary of War to make Permanente Metals, a corporation, eligible under that section.

The Court: You might indicate the purpose of this offer for the record. [294]

Mr. Moore: The purpose of the offer, your Honor, is to show that this particular operation is under the United States Government a war emergency function that is being carried on at Natividad.

The Court: I anticipated that, but I wanted the record to disclose it.

Mr. Naus: I have no doubt, if the Court please, that the certificate establishes that this entire plant, everything making it up, is an emergency facility within the meaning of that term as used in that section, and being such, I have no doubt that the plant was built at or about the time it was stated, and as part of our defense preparedness.

The Court: All right.

Mr. Moore: I will call Mr. Wilmoth.

J. J. WILMOTH,

called as a witness by defendant; sworn

Direct Examination

Mr. Moore: Q. Your name is——

A. J. J. Wilmoth.

Q. Where do you live, may I ask?

A. I live near Salinas, about six miles out.

Q. Do you live in the neighborhood of Natividad?

A. I do.

Q. How long have you lived in that vicinity?

A. I practically lived there my lifetime, about 60 years.

Q. Did you own in 1943 an apricot orchard in that vicinity? [295]

A. I did.

Q. Did you own it in 1944?

A. I did.

Q. Can you tell us with relation to the plant of the Permanente Metals Corporation approximately where your apricot ranch was located?

A. I think it was about a mile and a half or a little better west of the plant.

(Testimony of J. J. Wilmoth.)

Q. How large an apricot ranch did you have?

A. I have about 10 acres in apricots alone—about 10 acres.

Q. Of apricots alone? A. Yes.

Q. How long have you been engaged in apricot ranching or farming?

A. Oh, about 20 years.

Q. How long did you own this particular ranch?

A. Well, I lived on this particular ranch 45 years and I have owned it since 1927.

Q. Your life has been given to agricultural pursuits, is that correct? A. Yes.

Q. What is your normal yield from that ranch over the years? How much would it produce per acre? You say there are 10 acres there.

A. I think it runs about 60 tons a year, some years 50, some years 70.

Q. You mean for the 10 acres? A. Yes.

Q. In other words, five to six to seven tons per acre, is that correct? A. Yes.

Q. That is your customary and usual crop that you have taken off of that orchard?

A. I took off 55 tons in 1942 and I took off about 75 tons this year, 1944. [296]

Q. This year was a very good year?

A. It was.

Q. What did you take off in 1943?

A. I took off about 10 percent of that, about 6 tons.

Q. In other words, from the 10 acres you took

(Testimony of J. J. Wilmoth.)

off about 6 tons, approximately a half a ton an acre, is that correct?

A. Something like that. I imagine it would be.

Q. Was there any dust that you know of that came from Permanente Metals Corporation onto your property?

A. Not that I can say in 1942. In 1943 I didn't see any.

Q. In other words, so far as your property was concerned, which you say is about a mile and a half from the plant, you did not observe any dust deposit in 1943?

A. Well, no, not in 1943. I did notice a little in 1942, just a small amount.

Q. But you did not observe any in 1943?

A. No.

Q. The year you had your short crop?

A. No.

Q. Will you describe to his Honor the blossoming period in 1943 and the description of the weather, the weather conditions generally during the whole period of pollinization, and what happened to the fruit that was in your orchard?

A. I think it was on account of the weather more than anything else that ruined my crop. My crop was in full bloom. I sprayed it about the 1st of March. It commenced to rain. It rained about ten days. It turned out foggy and damp and rotted the blossoms.

Q. Out of your experience you would say that

(Testimony of J. J. Wilmoth.)

your short crop in that year was due to weather conditions?

A. I presume it [297] was, yes.

Q. That is your opinion, that is your view?

A. It was in my particular case, yes.

Mr. Moore: I think that is all.

Cross-Examination

Mr. Naus: Q. Mr. Wilmoth, what is the nearest point of the 10 acres of apricots that you have to the stacks of the Permanente plant at Natividad?

A. That I couldn't say, but I think it is somewhere within a mile and a half, something like that.

Q. About a mile and a half away? A. Yes.

Q. The nearest point of your 10 acres to the stacks of the Permanente plant, is that correct?

A. I think so, yes, something like that.

The Court: Do you recall the range of the dust, the testimony with relation to the area it covered?

Mr. Naus: Pardon me?

The Court: Do you recall the testimony of——

Mr. Naus: Dr. Duschak? Yes, I have that in mind.

The Court: Did that cover this area?

Mr. Naus: Yes, presumably. It is not entirely clear. I will ask the doctor more about it. I would rather not discuss the details in front of the witness, but I have it clearly in mind.

Q. What is the distance of the furthest part

(Testimony of J. J. Wilmoth.)

of your 10 acres of apricot orchard from the stacks of the Permanente plant? [298]

A. That is pretty hard to say. It would be across the orchard, which covers about 10 acres.

Q. I do not know the shape of the orchard.

A. Well, my orchard is square—a couple of hundred yards, probably.

Q. A couple of hundred yards across the orchard?

A. The furthest part of the orchard, yes.

Q. Then you would add about a couple of hundred yards to the mile and a half, is that correct?

A. Yes.

Q. What is the distance between the nearest part of your 10 acres of apricots to the nearest part of Mr. Pista's 44 acres of apricots?

A. Well, I am somewhat nearer—I presume about a half mile nearer.

Q. You say you are a half mile nearer the Permanente stacks?

A. Well, I should say I am about a mile.

Q. A mile?

A. A mile nearer than Mr. Pista's.

Q. You say you are nearer the stacks or he is nearer?

A. He is nearer, about a half a mile, I presume—about a half a mile.

Q. You presume. Is that your best estimate on the distance that you are farther away from the stacks than Pista?

(Testimony of J. J. Wilmoth.)

A. Well, yes. I am a mile and a half at the least. I never measured it. I don't know, really, but I judge.

Q. I might state that the maps that we have here and the evidence we have here indicates Mr. Pista's orchard is not more than a half mile from those stacks.

A. That is right. That is the [299] way I would figure it out.

Q. You are a mile away from them?

A. Yes.

Q. In other words, there is roughly a half mile to a mile from your orchard to his? A. Yes.

Q. Are you or not in the same general direction by the compass, let us say, from the stacks that he is? A. No, I am more west.

Q. I show you a map here designated Plaintiffs' Exhibit 1. Here is the old stage road coming along here. Down here is the plant where the stacks are, and this parcel over here that is closed in is Mr. Pista's orchard, showing Gabilan creek flowing through, and this arrow over here points to north. Will you indicate whereabouts with respect to this map your apricot orchard is?

A. Well, I think I am laying in this direction somewhere.

Q. You mean toward the south of Pista?

The Court: I think you have him confused on this.

Mr. Naus: Perhaps so.

(Testimony of J. J. Wilmoth.)

Q. You see, this direction from Pista would be southwest.

A. Well, that is about—I figure about west.

Q. May I state this: You see this points over here to north. A. Yes.

Q. So at right angles to that this way would be due west, see? Are you out this way from Pista?

A. No, I am not—I am west from Pista's orchard, as near as I can figure it out. This is Pista's orchard? [300]

Q. Yes, this whole place enclosed in here.

A. I am in this direction somewhere. Pista comes across this way.

Q. Are you west of the old Los Angeles Stage Road, here? A. Yes.

Q. Could you say how far west of the old Los Angeles Stage Road you are?

A. Well, the old stage road——

Q. Yes, the one running by the Permanente plant.

A. Well, here is the highway coming here, and I am right on this highway.

Q. Let me ask you whether it takes a different direction of wind from the Permanente stack to reach your place than it does to reach Mr. Pista's place?

A. Well, I think it would, yes.

Q. You did observe, you said, some dust falling on your place in 1942?

(Testimony of J. J. Wilmoth.)

A. I could see traces of it on new wood, on new growth.

Mr. Naus: May I proceed, Mr. Moore?

Mr. Moore: I was just looking for an exhibit that I find on your desk.

Mr. Naus: Mr. Harrington could have helped you on that. I was in the middle of cross-examination.

Mr. Moore: I did not intend to interrupt you.

Mr. Naus: But you did. May I have the last question and answer read?

(Record read.)

(A map was displayed by Mr. Moore to Mr. Naus.)

Mr. Naus: Mr. Moore, couldn't we keep this document until later?

Mr. Moore: I thought you wanted the map.

Mr. Naus: I do, but I want the map less than I want the interruption. We can come to that. Besides, there will be redirect coming.

(Question and answer re-read.)

Mr. Naus: Q. Was that toward the end of 1942?

A. I think along about in February, sometime.

Q. 1942?

A. Yes, along in pruning time. Now, I prune around in February, somewhere along in there.

Q. I am thinking of the year 1942, and not of the year 1943, and not of the year 1944. You know which year I am speaking of?

(Testimony of J. J. Wilmoth.)

A. I am speaking about 1942, yes.

Q. Now, you prune along in February of the year, do you?

A. I commence along in February and prune probably to the first of March.

Q. When you say "along in February," do you mean you start pruning in November, 1942 and carried it into February, 1943, or do you mean you started in November, 1941 and continued into February, 1942?

A. I started in 1941 evidently and finished in 1942.

Q. When did that plant start operation, do you know?

A. I don't know, really. I think it started sometime in 1940. I wouldn't say positive, because I never kept no record of it.

Q. This white something or other I think you mentioned as being on new wood, you meant what by new wood?

A. It would be a new growth of wood. [302]

The Court: Q. On the fruit trees?

A. Yes.

Mr. Naus: Q. On the fruit trees.

A. Clean wood where you could notice it. You couldn't notice it on rough bark. You could only notice it on clean wood, new wood.

Q. It was white, was it? A. Yes.

Q. With the dust? A. Yes.

Q. Did it crust onto the wood?

(Testimony of J. J. Wilmoth.)

A. Not enough to notice it, that is, not enough to mean anything at all. I could just see traces of it.

Q. What I am getting at is, the white you did see on the wood, was it crusted on the wood, what you could see?

A. You could take your finger and rub it off. That is why I knew it was dust.

Q. What is the latest date or month that you ever observed any trace of dust from the Permanente plant on any part of your apricot orchard?

A. Well, that was along about that time of year. That was about the last I ever noticed any.

Q. State the month and the year that you fix as the last time you ever noticed any dust on any part of your apricot orchard.

A. I think it was along about 1942, along in February, sometime.

Q. Along about February, 1942? Have you ever noticed any dust on any of your neighbors' property, like Mr. Pista's, or Mr. Anderson's?

A. I have noticed it, yes.

Q. Was there much of the dust that you could notice? [303]

A. You could notice it was white. As nearly as I could see it was white.

Q. Mr. Wilmoth, I was not asking so much the color of it as the quantity or amount of it. Did you notice much of it on either Anderson's or Pista's orchard?

(Testimony of J. J. Wilmoth.)

A. I couldn't say the amount of it. I have no way of determining the amount.

Q. Did you see it on the wood of the apricot orchard, on the leaves, the buds, or anything like that?

A. You could see it on the leaf. You could see it was white.

Q. Much of it? A. It was noticeable, yes.

Q. In the year 1943 when did apricot blossoms come out, and how long did the apricots bloom continually.

A. Well, they continued on for about three weeks, I think, from the beginning to the end.

Q. Beginning when and ending when?

A. Well, it began about February 1st and ended somewhere, well, about February 15th, I think, because I sprayed March 1st—about two weeks blooming season.

Q. I am trying to find when the blooming season began and when it ended as best he can recall.

A. I figured about the middle of February, 1942 when they began and they ended, after the rain, the first of March.

Q. You say February of 1942. I was asking you about the next year, 1943.

A. I am mistaken there. It is 1943 I am speaking of. [304]

Q. Then, as I understand it, you say that the apricot blooming began about the middle of February, 1943, and ended about the end of February, 1943?

(Testimony of J. J. Wilmoth.)

A. I think it ended—they were in full bloom the first of March, 1943, because I sprayed the first day of March.

Q. Well, you sprayed it while it was in full bloom, did you? A. Absolutely, yes.

Q. What did you spray it with?

A. Bordeaux, lime and bluestone.

Q. What is commonly known as the Bordeaux mixture, is it? A. Yes.

Q. You sprayed your orchard in the year 1943, while it was in full bloom, did you?

A. That is right.

Q. Is that your practice each year?

A. As near as I can get at it. That year they came out in bloom pretty early, almost at one time. They didn't linger long as they usually do.

Q. I am asking you simply if it was your practice each year like in 1941 and 1942 and 1943 and 1944 to spray your apricot orchard when it was in full bloom?

A. Well, you are supposed to spray it at a certain stage. You are supposed to spray it when it is in what you call a popcorn stage, between—just about the time they are ready to burst open and bloom.

Q. I am not asking you, Mr. Wilmoth, what you are supposed to do. I am asking you whether in fact you sprayed your orchard in each of the years I mentioned while the apricot orchard was in full bloom?

(Testimony of J. J. Wilmoth.)

A. I don't try to spray it in full bloom. I try to catch it as near as I can in between—not when it is in [305] full bloom, that would be everything in bloom—you can't do that. It is not possible to do it. You catch it probably some just coming in bloom, some in full bloom, and some through blooming.

Q. You spray it in various stages of blooming?

A. You can, yes.

Q. I am not asking you if you can; I am asking you if you do.

A. That is what I endeavor to do, yes, catch it—

Q. Not what you endeavor to do; did you in fact spray that way in those years?

A. Well, I could say yes.

The Court: Q. One spraying in the blooming period?

A. Yes. Some sprays twice, but I don't—

Q. I am just asking you about what you did. You just spray once? A. Yes.

Mr. Naus: Q. You have done it the same way for a number of years back, have you?

A. Yes.

Q. Do other apricot growers in the neighborhood it the same way?

A. I think they mostly do, yes, because I notice we always spray about the same time.

Q. Does the company that sells the spray give you assistance in suggesting when the spraying should be done?

(Testimony of J. J. Wilmoth.)

A. Well, I imagine a man in the fruit business twenty years should know about when to spray. At least, he ought to know about when to do it.

Q. That does not quite answer the question. I am asking you if a man from the spray company does in fact make suggestions to [306] you.

A. They probably have in time, but I don't recall any.

Q. You go along with the idea, then, as I understand it, that anyone who has been in the apricot business for twenty years knows when to spray?

A. Well, he should.

Q. That includes Mr. Pista, doesn't it?

A. Yes.

Q. Is Mr. Pista's spraying back through the years any different from your own, so far as you know?

A. So far as I know not. They are about the same.

Q. So far as you know, has spraying of apricot orchards in that neighborhood with Bordeaux mixture, ever prevented or interfered with the fruit setting?

A. No, I think it is beneficial.

Mr. Naus: Now, Mr. Moore, you wanted to point out something on this map. Perhaps we could come to an understanding with the witness about it.

Mr. Moore: Mr. Naus, you were examining him about the location of his ranch. This is a map of Monterey and San Benito Counties, and if you desire, you might ask him to spot his ranch on it.

(Testimony of J. J. Wilmoth.)

Mr. Naus: Well, if he can. Would you mark this for identification, Mr. Welsh?

(The map was marked Plaintiffs' Exhibit 12 for Identification.)

Mr. Naus: This is a map of Monterey and San Benito Counties, put out by Thomas Bros., well-known map makers in the community, and it gives sections, township numbers and the like. [307]

Q. Would it be possible for you to spot or to indicate on that map where your orchard is located?

A. If I can get a line on this map, I may.

Q. Just look it over.

A. It is approximately right in here somewhere (indicating).

Q. Could you take a pencil, please, and mark on there? Do you want to rest that on something? Here is a blue pencil. Perhaps that will bring it out better.

A. Natividad—I can't locate—which way is this going, north or south?

Q. The top of the map is due north. Here is the legend over here. Up and down is north and south.

The Court: Do either of you know where this ranch is?

Mr. Naus: I couldn't spot his. I do not know whether Mr. Moore can, or not.

Mr. Moore: We have it spotted here.

The Witness: I lay right in here, somewhere. I couldn't say definitely. Between Lagunita and Santa Rita.

(Testimony of J. J. Wilmoth.)

Mr. Naus: Q. You lay between where?

A. Lagunita and Santa Rita, on the main highway.

Q. Would you draw a blue line on that highway you are speaking of from Lagunita to Santa Rita?

The Court: Since there cannot be any question about the location of this ranch, it seems to me we are wasting time.

Mr. Naus: I do not know where his ranch is located.

The Court: Since there is no question about it there ought [308] to be a stipulation entered into.

Mr. Naus: Can you spot it on this map, Mr. Moore?

Mr. McCarthy: I think we have it here.

Mr. Naus: Mr. McCarthy, can it be spotted on this map, here? Can one of you gentlemen spot it?

Mr. McCarthy: We are just trying to.

Mr. Moore: We will pass it for the moment. I think we can.

Mr. Naus: Subject to spotting it, you may take the witness.

Can you mark this as well as the other one, Mr. Clerk, since they have it spotted? Please, Mr. McCarthy, I want to hear what you are saying to the witness.

May we make the substitution, please, in view of the spotting being on the other map?

The Court: Very well.

Mr. Naus: Q. I show you a map here, and it

(Testimony of J. J. Wilmoth.)

is suggested by the attorneys for Permanente that this mark over here is where your ranch is located, is that correct?

A. That is where I figure, just about in there.

Q. May I circle that and mark it?

A. That is as far as I can read that map.

Mr. Naus: If the Court please, I will encircle that, run off to the side, and mark it "W. 1." That is all.

Redirect Examination

Mr. Moore: Q. Mr. Wilmoth, do the orchards in that vicinity all come into bloom at the same time, or is there some [309] variation?

A. There is a variation on older fruit and young trees. I know that.

Q. Could you explain that?

A. That I couldn't very well do.

Q. Do the younger trees come into bloom earlier? A. Later in bloom.

Q. Later than the older trees. Is the blooming period affected in any way by the climatic conditions of this particular ranch, if you know?

A. I think the weather has a great deal to do with it at the time of blooming. This year they were coming in late because of the cold winter we had.

Q. In other words, the time of blooming is affected a good deal by the weather conditions, is that correct? A. I think so, yes.

Q. Has it been your observation of the ranches

(Testimony of J. J. Wilmoth.)

that are located in different vicinities that they all come into bloom at the same time, or is there some variation?

A. I think a warmer climate, or where they are located makes some difference, yes.

Q. That has been your observation, there is some variation? A. Yes.

Q. Are you acquainted at all with the so-called Bardin ranch?

A. I know where it is located, yes.

Q. What is its characteristic so far as weather conditions are concerned?

A. As far as I know, it is further south, and it is evidently a good deal warmer there and less fog.

Q. That is your view, is it?

A. That would be it, yes. [310]

Q. Where the Pista ranch is located, is that subject to fog and cloudy weather?

A. It is right near me, there. I have about the same kind of weather. They have the fog there the same as I do.

Q. It is your opinion as a man who has been engaged in the business that the short crop that you had in 1943 was due to the weather, is that correct?

A. I don't see what else it could be.

Mr. Moore: That is all.

Mr. Naus: No further questions.

The Court: Step down.

WILLIAM D. EIPER,

called as a witness by defendant; sworn

The Clerk: Q. Your name, please?

A. William D. Eiper.

Direct Examination

Mr. Moore: Q. Mr. Eiper, where do you live, may I ask?

A. I live in the Aromas section.

Q. What county is that?

A. Well, I live in San Benito County, but it is right close to the junction of Monterey and Santa Cruz Counties.

Q. How long have you lived there?

A. I have lived there since 1915.

Q. What business are you engaged in?

A. I have been raising apricots. [311]

Q. How long have you been engaged in the raising of apricots?

A. Well, I planted this orchard in 1915.

Q. In other words, from 1915 to 1944 that has been your livelihood, this orchard, is that correct?

A. Yes, sir.

Q. You have devoted your time to that business?

A. Yes, sir.

Q. Have you any connection with the Prune & Apricot Growers Association?

A. Yes, I have been a member ever since we had fruit to ship.

Q. Are you at the present time connected with that in any official capacity?

A. I am secretary of the Aromas Local.

(Testimony of William D. Eiper.)

Q. Of what? A. Of the Aromas Local.

Q. In other words, the Prune & Apricot Growers Association is divided up into certain locals; that means some particular community?

A. That is right.

Q. In that particular community where you reside you are the secretary of that particular local, is that correct? A. It is.

Q. How many acres have you in apricots?

A. I have 20 acres.

Q. That is located where?

A. Well, it is located in San Benito County, right near the junction of Monterey and Santa Cruz Counties, near what they call the Tri-County Bridge.

Q. Do you know where this plant of Permanente Metals is located at Natividad? A. I do.

Q. Approximately how far distant from that plant would say your orchard is?

A. I think about 12 miles.

Q. Have you at any time ever seen any indication of the dust [312] from that plant on your orchard? A. No, sir.

Q. To the best of your knowledge, there has been no dust deposited on your orchard from that plant; would that be your statement?

A. It is.

Q. What has been your normal crop from those 10 acres of apricots that you have over the years? I mean what yield is your normal crop?

(Testimony of William D. Eiper.)

A. It varies greatly, but I think about 60 tons would be an average crop.

Q. That is about 6 tons to the acre, is that correct?

A. No, sir. It would be about 3 tons to the acre.

Q. What crop did you have this year, may I ask?

A. This year I had 110 tons.

Q. You had 110 tons this year. This was a very good year, was it not?

A. It was, next to the best I have had.

Q. In 1943 what was your crop there?

A. In 1943 I had about 4 ton of green fruit.

Q. 4 tons from the entire orchard, is that correct?

A. That is correct.

Q. Perhaps you can perform the computation. About how much per acre was that?

A. It would be about a fifth of a ton an acre.

Mr. Naus: That is mathematical, Mr. Moore.

Mr. Moore: Q. Do you know from your actual observation of your orchard and your knowledge of the orchard business what caused that short crop on your orchard in 1943?

A. Well, I would say it was the rain. We had a long rainy period when they [313] were in blossom.

Q. Will you describe that to his Honor?

A. Well, just about the time that the fruit trees were in full blossom, it started to rain, and it rained, I guess, for about, oh, two weeks, and the blossoms just dropped off. The little fruit never set.

(Testimony of William D. Eiper.)

Q. You were there day and night and observed the process, did you?

A. I was there every day, in bed at night.

Q. Your short crop, in your opinion, was caused purely by the weather conditions and climatic conditions that existed in blossoming time, is that correct?

A. It was.

Q. As secretary there of that particular local, how was the crop, generally, in your neighborhood?

A. Well, it was very light in the whole district.

Q. Very light in the whole district. Can you give us any idea of what percentage of the normal crop was had in that district?

A. I haven't any exact figures, but my estimate would be about a tenth of the crop.

Q. And that was fairly constant throughout that district, is that correct?

A. Yes, sir.

Mr. Moore: That is all.

Cross-Examination

Mr. Naus: Q. In other words, over in that district where you were the rainfall was sufficiently heavy during blossoming time for the rain to carry away blossoms, pollen, and the like, and prevent the fruit from setting?

A. Yes, sir. [314]

Q. And that was the simple cause of the shortness of your crop, wasn't it?

A. In my opinion, yes, sir.

Q. In districts away from your orchard, if the rainfall had not been sufficient to take the same amount of blossoms and pollen off the trees at

(Testimony of William D. Eiper.)

blossom time, the effect would have been different in the setting of the fruit, wouldn't it?

A. Would you repeat the question?

(Question read.)

A. Well, sometimes two or three days of rain is all that is necessary to lose your whole crop of fruit. It is not the quantity of the rain. It is the time when it strikes your orchard.

Q. I will put it this way, then: If in some district—I am not speaking now of your district, but other districts in the counties of the State of California—if in any particular district where apricots were being raised, if the rain was not heavy enough to take off most of the blossoms and pollen, but the rain left a substantial amount of blossoms and pollen on the trees, then more fruit would set, wouldn't it? A. Yes.

Q. So it gets down to the matter in your opinion as to the extent of the blossoms and pollen left on the trees after any period of rain?

A. Yes, sir.

Q. You say you are about 12 miles from the Natividad plant at Permanente?

A. Yes, that is what I would judge.

Q. Any hills between you and the plant?

A. Well, low hills, [315] yes, but no high range of hills.

Q. You are in a different region than the region in which the Permanente plant is, aren't you?

A. Yes.

(Testimony of William D. Eiper.)

Q. I mean a different region for purposes of apricot growing; you are in a different region entirely? A. Yes, sir.

Mr. Naus: That is all.

The Court: You may step down.

Mr. Moore: May we have the recess now, your Honor, and I would ask, with Mr. Naus' approval, that these two witnesses be excused.

Mr. Naus: I have no objection.

The Court: Very well, we will take the recess.

(Recess.)

J. M. GAROUTTE,

called as a witness by defendant; sworn

The Clerk: Q. What is your name?

A. J. M. Garoutte.

Direct Examination

Mr. Moore: Q. What is your business, Mr. Garoutte?

A. I am superintendent of the Natividad and Moss Landing plants of Permanente.

Q. Are you an engineer by education?

A. No, I am a chemist by education.

Q. You graduated in chemistry, did you?

A. I did not graduate, no. Three years.

Q. Where did you go to college?

A. University of California. [316]

Q. You studied chemistry there, did you?

A. Yes, sir.

(Testimony of J. M. Garoutte.)

Q. You are superintendent in charge of the Natividad plant and the Moss Landing Plant, is that correct? A. Yes, sir.

Q. And the activities in those two plants are conducted under your supervision, is that true?

A. Yes, sir.

Q. You are familiar with the so-called Cottrell separator there relative to dust catching?

A. Yes, sir.

Q. Can you tell his Honor when that was installed and when it first started to operate?

A. It first started operation in August, 1943.

Q. August, 1943? A. Yes, sir.

Q. Prior to that time was there any time of dust catching there?

A. Well, a lot of dust accumulates in the so-called dust box and the duct work and the stack on each kiln.

Q. Before the installation of this Cottrell apparatus will you explain to his Honor the dust situation there, and the amount of it that escaped, as nearly as you can tell us, if you have no records or figures of any kind; if you haven't, give us a general idea of the dust situation up to August, 1943.

A. The only method we had of determining the amount of dust—actually, we could not say how much dust went out the stack. Provision was made in the construction to collect the dust that accumulated in the smoke boxes, so-called, and the stack

(Testimony of J. M. Garoutte.)

installation, which dust was picked up and elevated back into the feed bins, and by balancing the amount of material fed to the [317] kiln and the amount of material produced, we will say, in each kiln, that would be the only estimate we could have of the amount of dust that was emanating from a stack.

Q. Have you ever made any such estimate or have you any idea on that subject?

A. That varies with the tonnage produced. The maximum tonnage before the installation, as I recall, was around 160 to 170 tons per kiln, and roughly, in the calcine form, that is, in the finished product form, the amount of dust was approximately 10 percent. Now, that again—well, that is enough, I guess.

Q. I didn't hear you.

A. I think that is not—it is as accurate an index as we could get under the conditions.

Q. You mean there was that amount——

A. About 10 percent—I would say 16 tons a day was the loss on the basis of the finished product form, that is, on the basis of the calcine.

The Court: Q. On each kiln?

A. Yes, sir.

Mr. Moore: Q. After the installation of this Cottrell system have you any estimate of the amount of dust there that escaped?

A. After the installation?

Q. Yes.

(Testimony of J. M. Garoutte.)

A. We made a number of tests on the basis of single kiln tests. The dust amounted to, I would say, a maximum of about 5 tons per kiln, and an average of probably $1\frac{1}{2}$ to 2 tons per kiln, perhaps maybe it was three. I can't recall.

Mr. Naus: His voice falls and I can't follow everything he says. [318]

The Witness: I will talk louder.

Mr. Naus: May I have the last answer read?

(Answer read.)

Mr. Moore: Q. I do not understand your answer. You said 5——

A. I said a maximum of 5 tons, that is, figuring on the basis of efficiency, I would say the average efficiency was something better than 90 percent.

Q. In other words, the amount of dust that was collected, if we may say that——

A. Is 90 percent of the total amount of dust offered to the installation.

Q. Have you records with you relative to the operation of these kilns during the months of February, March and April of 1943?

A. February and March, 1943.

Q. February and March?

A. Yes, I have here——

Q. Pardon me, may I have it?

A. —the kiln reports, on which I have placed on the cover the days the kilns were down.

Mr. Naus: Mr. Moore, I couldn't possibly take up his Honor's time looking over a batch of stuff like that. I have never seen it before.

(Testimony of J. M. Garoutte.)

Mr. Moore: Q. You have produced here, Mr. Garoutte, various documents. Will you tell us what those are?

A. These documents are the kiln reports that are turned in. They are pieces of paper turned in by the burner, one on each shift, on the kiln installation, which shows the readings on the feed to the kiln, which in turn gives him the tons produced and the amount of gas [319] per kiln and information of that kind, and they also show whether or not the kiln was operating on any given day.

Q. Are those turned in daily?

A. Yes, sir.

Q. And you have here the records for Febraury and March, 1943, is that correct?

A. And 1944.

Q. And 1944? A. Yes, sir.

Q. Directing your attention to 1943, I asked you to make a summation of the operation of those kilns in the months of February and March, 1943. Have you made such an examination?

A. Yes, sir, on these covers.

Q. You made those on the covers of these reports? A. Yes, sir.

Q. And that summation properly represents the reports that you have in your hand, is that correct?

A. Yes, sir.

Q. Will you tell us the operation of those kilns in the month of February, 1943?

(Testimony of J. M. Garoutte.)

A. Those kilns were operating for all days except No. 2 kiln. One of the kilns was down from the 25th to the 28th of February, inclusive.

Q. Outside of that, both kilns were operating—

A. Outside of that both kilns were operating daily.

Q. Were they operated on an 8-hour basis or on what basis? A. A 24-hour basis.

Q. On a 24-hour basis? A. Yes, sir.

Q. How about the month of March, 1943?

A. March, 1943, the No. 2 kiln was down March 1st to March 4th, inclusive.

Q. Aside from that—

A. Aside from that they operated on a 24-hour basis. [320]

Q. Now, in 1944, the month of February 1944, have you the record there?

A. Yes, sir. Both kilns operated on a 24-hour basis the whole month of February 1944.

Q. How about the month of March 1944?

A. The month of March 1944—March 1 to 4 inclusive, one kiln was down; March 15 to 16 inclusive, one kiln was down, and March 18 to 24 inclusive, one kiln was down.

Q. Aside from those particular periods that you have referred to, the kilns were operated on a 24-hour basis, is that correct?

A. Yes, sir, that is right.

Q. Now, this Cottrell installation—there were various changes or improvements, if we may term

(Testimony of J. M. Garoutte.)

it that, in that installation after it was initially installed, were there not?

A. Yes, sir, there were many changes required.

Q. In the previous testimony—you weren't here—there was some testimony relative to the change-over from natural gas to oil or vice versa in the operation of that plant at Natividad. Was there such a change made?

A. We were required to burn oil for practically all of the months of December, January, and February—December of 1943 and January and February of 1944 generally. For a time we were required to burn oil at night and were allowed to burn gas in the daytime.

Q. You say you were "allowed." By whom do you mean?

A. By the War Production Board limiting us.

Q. In the operation of that Cottrell system did the change-over [321] from oil to gas or gas to oil have any effect on its operation?

A. No, sir, generally not, except we had some trouble, but not—mechanical trouble rather than, I would say, trouble that affected the efficiency of the operation.

Q. Will you explain to his Honor just what that trouble was and what was done in an effort to cure it.

A. Well, the Cottrell was originally constructed—the curtain walls are brick. The walls are about 20 feet high and probably 40 feet wide and 40 feet

(Testimony of J. M. Garoutte.)

long. They are attached to concrete columns at four different intervals in the length of this wall, and this attachment is to allow expansion and contraction when you are either heating it up or shutting it down. And your curtain walls were not constructed as the duct, and when we went to oil, when we burned oil, the vibration in the burning was such that it caused a fluttering in the curtain walls of this Cottrell and had a tendency to crack them. Such vibration is from the actual burning of the burner at the far end of the kiln, some 400 feet away, but each one of those pulsations caused a vibration in the duct work, which in turn was transmitted into the Cottrell, and because the curtain walls were not constructed as ducts, it was necessary to reinforce them—that is, they actually failed; and I would say the movement was as much as a quarter of an inch, and cracked some of this brick work, which we had to strengthen.

Q. And what did you do in curing that condition?

A. Well, [322] steel framework was designed which broke up the panel, we will say, of this curtain wall. It was about 10 feet and about 20 feet high, and built up laterally into three panels, which was tied to steel, and from the steel was tied to the concrete columns, which took the period, we will say, out of the vibration of this brick wall.

(Testimony of J. M. Garoutte.)

Q. In the operation of that Cottrell system have you had other problems you have had to meet?

A. Yes, sir.

Q. Will you explain what they were.

A. Well, when we—the original installation called for brass castings that held the electrodes. After the things were installed, the brass failed. It was a design error, and we had to shut down and get new castings, heat-resistant castings, and rebuild portions of the structure of the Cottrell.

The Court: Q. Did you burn the brass out?

A. The brass distorted; it didn't burn out; but under the heat it would crystallize in some way and crack and drop our whole rod curtains down three or four times.

Then there was a matter of operating temperatures. The temperature at which the Cottrell operates most efficiently is from 750 to 800° F., and that required some considerable work to find the most efficient operating temperature. That is, as we go higher, structurally the equipment is liable for failure because of the high heat. If you go lower, the efficiency drops off. But by closing up and very definitely trying [323] to eliminate all leaks in it, we were able to maintain the temperature at a minimum of 750° in the Cottrell with a safety mechanism which opened the Cottrell to cold air if the temperature went above 820°.

Mr. Moore: Q. Now, the operation of that Cottrell has been under your direct supervision, has it, Mr. Garoutte? A. Yes, sir.

(Testimony of J. M. Garoutte.)

Q. As these problems arose in connection with it, did you consult with other people?

A. Yes.

Q. And with whom did you consult in that connection?

A. Well, primarily Western Precipitation, who designed the thing.

Q. And do you know Dr. Duschak? Did you consult with him? A. Yes, Dr. Duschak.

Q. In the operation of that Cottrell system have you ever made a request of the company that you are employed by for materials or money or anything of that sort to make changes or experiments there that has ever been denied you? A. No.

Q. In other word, would it be your statement that from the times that Cottrell system was installed up to the present time that every effort has been made by the Permanente people to make that system function properly?

A. That is right.

Q. In your opinion, is it functioning properly now? A. Yes, sir, I believe it is.

Q. It has been a matter of some experimentation and changes? [324]

A. Yes, sir, that is right.

Mr. Moore: That is all. I would like to ask one question:

Q. In your opinion, is it functioning efficiently today, Mr. Garoutte?

A. Yes, sir, I believe it is.

(Testimony of J. M. Garoutte.)

Cross-Examination

Mr. Naus: Q. Mr. Garoutte, do you mean to say that the period of experimentation with that Cottrell has ended and you have now reached the final stage that you intend or expect to reach with it?

A. As far as operation of that unit, I would say yes. That is, we are doing everything we can to keep it operating at maximum efficiency at all times.

Q. You confined that to operation as distinguished from design? A. Yes, sir.

Q. You mean you are through with your experimentations merely as to operating efficiency under the present design, is that it?

A. No, I wouldn't say that. The problems that have arisen in the operation of the Cottrell are not a matter of experiment; they are a matter of the most efficient operating procedure. It isn't a matter of going off on some experiment as such; that is, we are not trying anything more than to collect all the dust that is offered to the Cottrell.

Q. Do you mean to suggest that there is nothing further that can be done to diminish the amount of dust still coming out of the top of the stack?

A. There is a possibility that a [325] certain amount of that could be diminished. That is—

Q. I thought you had finished. Did you want to say something further?

A. No, I will let it go at that.

(Testimony of J. M. Garoutte.)

Q. These recent tests as to the amount of dust coming out of the top of the stack were in the present month, weren't they, the early part of the present month of September? A. Yes, sir.

The Court: I didn't get that. Read it.

(Question and answer read.)

Mr. Naus: Q. That was an attempt at scientific measurement of the amount of dust as best it could be done, wasn't it? A. Yes, sir.

Q. On any prior occasions was there ever any attempt from a scientific basis to measure the amount of dust coming from the top of the stack?

A. Well, we made our own measurements, but I don't know how scientific they would be.

Q. Of dust coming from the top of the stack?

A. That measurement of the dust is a matter that is ordinary procedure, and you do it to the best of your ability all the time.

Q. I am speaking of the measurement of dust coming out of the top of the stack.

A. Yes, sir.

Q. Is that what you are speaking of? Now, at the present moment as you are sitting on the stand, you would say there are about four tons a day coming out of the two stacks, wouldn't you—a day of 24 hours, four tons of dust?

A. Yes, sir, I would [326] say that was four tons—four, perhaps even five.

Q. Perhaps even five tons. Why do you say that?

(Testimony of J. M. Garoutte.)

A. Well, because every count we have ever made there has never been two that are exactly the same.

Q. Then state in your own way your estimate or impression or understanding of the amount of dust coming at this moment in a 24-hour period out of the top of those two stacks.

A. Yes, sir.

Q. What is it?

A. I would say a maximum of six tons a day.

Q. And what would you say the minimum?

A. A minimum of about three.

Q. Right at the present time it is running in a range of three to six tons of dust out of the top of the two stacks when you are in 24-hour operation?

A. No, sir; that is under a maximum load in the kiln.

Q. All right. Now, what do you call a maximum load in the kiln in a 24-hour period?

A. 190 to 200 tons per day per kiln of finished product.

Q. Is it running under that maximum loading now? A. No, sir.

Q. Has it run under that maximum loading in the past? A. Yes, sir.

Q. Over what period of dates or range of time?

A. Well, since June of this year I would say that it has run at about 70 to 75 percent of maximum capacity. That is an estimate.

(Testimony of J. M. Garoutte.)

Q. You call that maximum loading of the kiln—is that your [327] phrase? A. Yes, sir.

Q. What was your loading of the kilns in the month of February 1943 on an average through that month?

A. Oh, on an average I would say at that time it was at maximum capacity, but at the present time it is——

Q. I am only asking about that time.

A. Well, it varies. The tonnage on maximum loading now is greater than it was at that time.

Q. My question is simply addressed to February 1943. I want to find what was the amount of loading of the kilns in the month of February 1943.

A. About 160 tons per day per kiln.

Q. And what was the amount of loading of those kilns in the month of March, through the month of March 1943?

A. I would say approximately the same.

Q. What was it in the month of February 1944?

A. It was about 180 to 190, I would say, on an average.

Q. And what was it in the month of March 1944? A. About the same.

Q. Now, these various tonnages you have given—does that cover the two kilns, or just one?

A. No, 160 tons per day per kiln. That is three hundred and——

Q. In the months of February and March 1943 you have already given us the days on which the kilns were operated. A. Yes, sir.

(Testimony of J. M. Garoutte.)

Q. The same as to February and March——

A. Excuse me; the days that I gave you were the days that the kilns did not [328] operate. That is, the kilns operated other than those days.

Q. You gave it both ways. You said it operated 24 hours during all of those months excepting those days, so that gave both figures?

A. Yes, sir.

Q. That included Sundays and holidays, did it?

A. Yes, sir.

Mr. Naus: May we have this batch of documents marked for identification, if the Court please?

The Court: They may be marked for the purpose of identification.

(The folders referred to were marked Plaintiffs' Exhibits 13, 14, 15 and 16 for Identification.)

Mr. Naus: Q. Is there anything you know of in the way of designing that could result in decreasing the amount of stack loss as it is now running?

A. Well, I don't know that I am qualified to answer that. That is, I—it is possibly so, but I am——

Q. If your answer is you don't know, I will pass on. A. That is right.

Q. Is that your answer? A. That is right.

Q. Now, when did those kilns first go into operation down there?

A. The 4th of August 1942.

(Testimony of J. M. Garoutte.)

Mr. Moore: I think there is an error there.

Mr. Naus: Pardon me. Counsel for Permanente suggests that your answer may be in error. Have you a recollection of the date?

A. I have a recollection, yes. That is, it wasn't [329] operating at full capacity on that date. That is, one kiln was operated for about thirty days only, that is, while the construction was completed on the rest of the plant.

Q. Could we put it this way: Is it or not the fact that prior to August 1942 neither kiln had ever operated? A. Yes, sir.

Q. It is perfectly clear, is it not, that in the month of February 1942 neither kiln was operating—correct? A. Correct.

Q. And that in the month of February 1942 no dust was coming out of either stack?

A. That is right.

Q. And at no time prior to August 1942 was any dust coming out of either stack; that it correct, isn't it? A. That is right.

Q. Could you speak up so the reporter and I could hear you? A. Yes.

Q. Was the Cottrell precipitator a part of the original plan or design of the operation, or did that come subsequently?

A. The Cottrell was originally—I don't know that you would call it a part of the design; that is, no—on the original drawings which were made, they were merely layout drawings; that is, actual flow drawings rather than design drawings, and

(Testimony of J. M. Garoutte.)

I don't think the Cottrell in the original drawings ever reached the design stage.

Q. Was the original design of the stacks for a height of 200 feet?

A. I don't think they are that high. That is—

Q. What is their height?

A. As I recall, it is about 120 to [330] 130 feet—somewhere around that.

Q. Were they originally designed to the present height that exists—were they originally designed to that height before the decision to install the Cottrell precipitators? A. Yes.

Mr. Naus: I think that is all.

Redirect Examination

Mr. Moore: Q. Just one or two questions. You gave certain figures to Mr. Naus relative to tonnage. Were you referring in those figures to the finished product or the raw material?

A. Finished product.

Q. In other words, all the testimony that you have given relative to the production of those kilns has to do with the tonnage of finished product rather than of the raw material?

A. That's right.

Q. These tests that were taken here in this month, in September, were they taken under your supervision? A. No, sir.

Q. In other words, you had nothing to do with the taking of those particular tests?

(Testimony of J. M. Garoutte.)

A. No, sir, other than to make all facilities available to them.

Q. So any testimony that you have given here is merely what you have, you might say, heard around the plant, is that correct?

A. I have never seen the results of the tests actually made at that time.

Q. They were made under Dr. Duschak's supervision, were they? A. Yes. [331]

Q. And who was the man that made them?

A. Mr. Brundage, I believe.

Q. Who is he?

A. He is a testing engineer of the Western Precipitation Company.

Q. And those tests were not carried out as part of your job there? A. No, sir.

Mr. Moore: I think that is all.

Mr. Naus: Q. You speak of the weight of tonnage of finished product. What is the relationship in weight between——

Mr. Moore: Pardon me. May I interrupt you? There is one question I would like to ask that I overlooked.

Q. Mr. Garoutte, in this dust problem down there, you are familiar with the quarry operations, are you not? A. Yes, sir.

Q. That is where the raw dolomite is mined?

A. Yes, sir.

Q. And in your opinion, any dust that is spread over the neighborhood there, does any portion of that come from the quarry operations?

(Testimony of J. M. Garoutte.)

A. I would say no appreciable amount, no. That is, the only dusty operation, practically, is the blasting operation.

Q. And any dust that is distributed over that immediate vicinity, it would be your opinion that it came from these stacks? A. Yes, sir.

Q. From the kilns? A. Yes, sir.

Mr. Moore: That is all. [332]

Recross Examination

Mr. Naus: Q. You have seen dust from the kilns, from the stack, on the Pista orchard itself, haven't you? A. Yes, sir.

Q. You have been in the orchard and seen limbs shaken and seen the dust fall to some extent?

A. Yes.

Q. Pretty heavy dust, was there, in 1943?

A. I would say it was appreciable.

Q. Pretty heavy, was it?

A. Well, I don't know. I would say—I have never seen it anyplace else; I don't know. I would say it looked like an appreciable amount of dust, there is no question about that.

Q. You have never seen dust anywhere but in the Pista orchard?

A. No, I have never had any experience with a dust problem at other points.

Q. Now, you speak of the weight or the tonnage of the finished product in answer to Mr. Moore. What is the relationship between the weight of the finished product and the weight of the original raw dolomite?

(Testimony of J. M. Garoutte.)

A. Well, theoretically, on a basis of complete gnition, why, the feed is 1.834 times the product.

Q. 1.834 times? A. Yes.

Q. By the way, there was a question I should have asked a while ago. In the months of February and March 1943, which as we all know now is before the Cottrell was installed and [333] functioning, what is your estimate of the total weight of dust escaping from the top of the two stacks when both kilns were operating—weight per 24 hours?

A. Oh, I would say that it—that the dust offered—well, let me see now. I would say possibly 30 tons a day in the two stacks.

Q. 15 tons each?

A. 15, 16 or 17 tons a day per stack.

Q. And how do you arrive at that estimate? What is your method of measurement or calculation or estimate?

A. That calculation is based on the difference between the tons fed and the tons produced, again going back to this theoretical factor which we mentioned a moment ago of 1.834.

Q. Are the tons fed weighed into the kiln?

A. Yes, sir.

Q. And the output weighed out?

A. No, it isn't weighed out except as it is shipped.

Q. Is there any loss in weight after the completion of the operation before trucking, before weighing?

(Testimony of J. M. Garoutte.)

A. Well, there is a tendency to pick up weight.

Q. A tendency to change the weight then?

A. Yes, sir.

Q. Then this all depends on an estimate you have made by comparing the raw dolomite in and the finished product out? A. Yes.

Q. What do you call that finished product out, by the way? A. Calcined dolomite.

Q. And on the assumed or theoretical basis of 1.834 times—— A. Yes, sir.

Q. (continuing)—the weight of the finished product as [334] representing the weight of the raw dolomite? A. Yes.

Q. How is that 1.834 determined as a theoretical factor?

A. It is determined by a matter of taking the stone and completely igniting it and getting the percentage of ignition.

Q. In other words, then, taking the raw dolomite fed in, the weight—— A. Yes.

Q. Applying that factor of 1.834?

A. Yes, sir.

Q. Taking the weight of the finished product, why, there was some tonnage loss somewhere and you assumed it went out the stack?

A. Yes, sir.

Q. That is the way you estimated it?

A. That is right.

Q. Now, in this recent testing, that was the actual weight of the dust itself in the stack, wasn't it, or do you know?

(Testimony of J. M. Garoutte.)

A. You are speaking of the tests early this month?

Q. Yes.

A. I don't know where or how they were taken.

Mr. Naus: Thank you. That is all.

Further Redirect Examination

Mr. Moore: Q. Mr. Garoutte, if I understood you, the estimate of 15 to 16 tons per day per stack was before the Cottrell was put in, is that correct?

A. Yes, sir; that is on a basis of the finished product again.

Q. Now, was there an effort made to collect dust even before the installation of the Cottrell?

A. Well, we collected the dust that was—that settled in any open area of dust. Every time you change the velocity of the gas you drop dust in any [335] part of the system, and provision was made with screw conveyors and elevators to bring that dust out of the system; that is, to keep it out of the equipment.

Q. The screw conveyors and that process was used from the beginning?

A. Yes, sir, that was put in originally.

Q. I didn't get it clearly. You said that the Cottrell was not in the flow sheets, as you call them.

A. No.

Q. Or design. Just where did the Cottrell come into the picture?

A. Well, I said that the Cottrell was probably in the flow but never reached the design stage, the

(Testimony of J. M. Garoutte.)

Cottrell itself. That is, it was just a square mark on a flow drawing marking the Cottrell.

Q. On a flow drawing there was a place for the Cottrell, is that correct?

A. Well, a flow drawing is very indefinite. It is a matter—it is a piece of paper that when you start to construct a plant you get the products in and the products out and the gas flow, and everything else; it is just a square, a mark on a piece of paper. But to reach the design stage, why, it has to go into complete structural drawings.

Q. Into detailed drawings

A. That is right.

Q. In the original plan there was a portion of those plans labeled for the Cottrell, is that right?

A. Yes, sir, that is right.

Q. But the detailed manufacture or setup of that particular installation was not completed or done at that time? [336]

A. That is right.

Q. That was done subsequently?

A. Yes, sir.

Q. Now, this plant went into operation, you said, in August 1942? A. Yes, sir.

Q. And when was the Cottrell installed there?

A. Well, the Cottrell was ordered and design started either in December or January of 1943, and the construction was completed in, I would say, August of 1943.

Q. You said December or January——

(Testimony of J. M. Garoutte.)

A. December of 1942 or January of 1943.

Q. In other words, the plant started operating in August 1942, is that correct? A. Yes, sir.

Q. And the design of the Cottrell was made in December 1942 or January 1943?

A. The design was started at that time; that is, it was something of a procedure. Drawings were started, and the engineering work was started, and the Cottrell was actually ordered—the requisition or purchase order was issued to the Western Precipitation Company at about that time—either December of 1942 or January of 1943.

Q. And when did they actually start installing the Cottrell there?

A. Well, the work that we did on it, which was all the work below grade—that is, our company did—was started in March, if I recall correctly—in the early spring.

Q. Of 1943? A. Yes, sir.

Q. Do you know of your own knowledge the cost of that installation? [337]

A. No, not the complete cost.

Q. That is, the instalaltion was made by the Western Precipitating Company, is that correct?

A. Western Precipitation Corporation.

Q. It wasn't made under your supervision?

A. No, our part of the structure was the part of the structure that was below grade, the footings. We brought the footings to grade and turned it over to them, and they completed the installation.

Mr. Moore: I think that is all.

(Testimony of J. M. Garoutte.)

Further Recross Examination

Mr. Naus: Q. By the way, I think you gave the height of the stack as 120 to 130 feet, did you?

A. Yes; that is an estimate. I don't know the exact—I would say that it is less than 150 and certainly more than 110 or 115. It is in that general—I could find out.

Q. What is—pardon me?

A. I could look it up, but I don't have it at hand.

Q. What is the lowest point below the top of the stack at which dust first enters into the stack?

A. Well, the center line on the duct—the original duct—was probably seven feet from the bottom; we will say the bottom being grade of that stack—that is, not the bottom of the footing, but the grade—the actual grade of the surrounding area.

Q. Well, then, assuming the stack to have been 120 feet high, as you estimate it, the dust would have a travel, then, of [338] seven feet less, or 113 feet from the point of entry to the top of the stack, is that it? A. Yes.

Q. I just wanted to see your thought to see if I had it right.

A. That is generally so, but I am not certain about the actual height of the stack.

Q. Have you some information somewhere from which it could be determined?

A. Well, I could get it later, but I can't get

(Testimony of J. M. Garoutte.)

it right now; that is, it is at the plant. I can look at the drawings and find out how high it is.

Q. Is it available anywhere in San Francisco?

A. No, sir.

Q. Could you send that information in to Mr. Moore so it would be available to me this coming week when the trial resumes?

A. Yes, sir.

Mr. Naus: Thank you.

The Court: Is that all?

Mr. Naus: That is all.

Mr. Moore: Let's understand exactly what you want, Mr. Naus.

The Court: Is that all you want?

Mr. Naus: Yes.

The Court: Of this witness?

Mr. Moore: That is all, yes.

Mr. Naus: Yes.

The Court: May I make some inquiry of my own off the record? [339]

(Inquiry by the Court off the record.)

Mr. Moore: May the witness be excused, Mr. Naus?

Mr. Naus: Yes, subject, of course, to sending in that information to you that can be available to me when you receive it.

The Witness: The height of the stack.

(Thereupon a recess was taken until 2:00 p.m. this date.) [339a]

Afternoon Session, September 15, 1944

2:00 P. M.

Mr. Moore: Dr. Duschak, will you resume the stand?

Mr. Naus: Do you want to resume with him now?

Mr. Moore: Yes.

L. H. DUSCHAK,
recalled;

Cross-Examination (Resumed)

Mr. Naus: Q. Doctor, did you finish your homework on figuring? A. Yes, sir.

Q. What did you come up with?

A. Astronomy.

Q. Will you give us the astronomical figure? I thought we would reach there sooner or later.

A. Your question, I believe, was as to the number of particles of certain specified sizes in one pound of dolomite.

Q. I hesitate to repeat the question, because if I repeat it differently we might have to figure all over again. Suppose we start with the results you reached and we will go back from that point.

A. That was my understanding of the problem.

Q. All right.

A. One pound of dolomite in the form of cubes, 46 microns on an edge, will contain 1,664,300,000 particles, approximately.

Mr. Moore: Could I have that again?

The Witness: 1,664,300,000.

(Testimony of L. H. Duschak.)

The Court: Q. Didn't he give you two other problems?

A. Yes. The next question was to calculate the number of par- [340] ticles if they be 10 microns in diameter, which I have taken to mean in the form of cubes, 10 microns on the edge.

Q. Go ahead.

A. In that case we will have 161,836,390,000 particles.

Q. In a pound?

A. In one pound of dolomite, and if we go down to little cubes, five microns on an edge, one pound of dolomite will contain 1,295,500,000,000 particles, approximately. I say approximately because I haven't carried out the digits.

Q. As I understand it, then, you have done that figuring on the calculation or on the assumption that the particles were cubes?

A. Only at your request, sir.

Q. I did not suggest anything as to the shape of the particle.

A. Oh, I beg your pardon. Yes, I assumed that the particles were in the form of little cubes, that is right.

Q. If the particles were spheroid instead of cubical, it would nearly double the number of particles in a pound, wouldn't it? Wouldn't it increase the number by about 50 percent?

A. No.

Q. What is it?

A. Your volume of a cube is the cube of the diameter and the volume of the sphere is $\frac{4}{3}$ of the

(Testimony of L. H. Duschak.)

cube. It would increase the number by something less than 50 percent. I do not recall the figure off-hand.

Q. Spheres do not rest exactly on top of each other when compacted together, but fill the interstices between the spheres? A. Yes.

Q. Somewhere around 50 percent higher if you assume the circle [341] shape instead of the cubical shape, isn't that so?

A. No, my recollection is it would not be higher than 25 percent.

Q. We will settle for 25 percent then. That is in the carbonated form of the dolomite, isn't it?

A. My calculation is for dolomite, yes.

Q. By the way, there was something said by Mr. Garoutte this morning about the end product of the operation at Natividad being, what was it, calcium dolomite? A. Yes.

Q. That end product comes out, as I understood you the other day, in pieces up to one or two inches in diameter or size?

A. No, I think I said up to about a half inch.

Q. Up to about a half inch in size?

A. Yes.

Q. Or a very small particle up to a maximum size of a half inch in diameter: Does that cover it?

A. That is an approximate description.

Q. And all sizes in between, perhaps?

A. That is correct.

Q. What is done with that end product when the process is finished? Is it put in a stock pile?

(Testimony of L. H. Duschak.)

A. No, it goes into a closed storage bin.

Q. Is that closed storage bin moisture proof?

A. Reasonably so, yes. It is a tight steel bin with a tight cover. It is not absolutely hermetically sealed but the contents are very well protected from the atmosphere.

Q. Does any atmospheric air enter this chamber that the end product is put in?

A. Yes, it will enter it when material is [342] drawn out, and it could be expelled from it when material is charged into it.

Q. Is that a frequent occurrence?

A. Yes. The transfer of the freshly calcined material to this storage bin is continuous. The withdrawal is whenever a truck is to be loaded.

Q. Anyway, when it comes out of this chamber it is loaded onto an automobile truck, is it?

A. That is correct.

Q. And is it loaded by power shovel?

A. No, spouted.

Q. Spouted—it flows out of a spout into a truck?

A. That is correct.

Q. Into an open truck?

A. Yes, in some cases.

Q. What happens in other cases?

A. In some cases the truck is covered or partially covered.

Q. Covered how?

A. I can't answer that in detail, Mr. Naus. I really have not observed those operations carefully.

Q. In some cases, as I understand, it is loaded

(Testimony of L. H. Duschak.)

into an open truck by pouring through a spout into the chamber, and in other cases it is loaded into a truck and covered in some way?

A. I have seen trucks covered with tarpaulin and I have seen down there some trucks that are very much like oil tanks, that is, they are completely enclosed. Just which of those they use when I couldn't say.

Q. These trucks that are loaded in the open and left uncovered and those that are loaded in the open and then covered with a textile, what then becomes of those trucks?

A. They are immed- [343] iately weighed and sent to their destination.

Q. How far away? A. Their destination?

Q. Yes.

A. Well, it might be to Moss Landing. At one time it might have been Manteca. Possibly some other places.

Q. When those go over to Moss Landing, do they travel through the atmospheric air for about eighteen miles?

A. The truck travels through the atmosphere, yes.

Q. Yes, I know, but I am thinking of the contents of the truck that are loaded in the open truck; the contents, the calcined dolomite, travels through the open air, the atmospheric air?

A. It travels with the truck, yes.

The Court: What is the purpose of this testimony?

(Testimony of L. H. Duschak.)

Mr. Naus: The purpose, if the Court please, is this: To test the statement of the witness on direct that the particles, instead of going out immediately to the chamber and then to the trucks, as the end product, that go up the stack and are called stack loss and then travel from a half mile to a mile to reach the Pista orchard, this witness has testified on direct that in his opinion Mr. Twining is wrong in saying they could land as an oxide. This witness says they must necessarily have landed as a carbonate, both the calcium and the magnesium having been returned to their original form and landing as a carbonate, they wouldn't be caustic. I want to show what weight should be given to that, because this bears on the causticity, for if the identical particle, instead of traveling [344] from a half mile to a mile from the top of the stack over to the Pista orchard, returns to the original form that it came out of the quarry, why, then, we are dealing with perfect stupidity in calcining at all, because in taking it 18 miles to Moss Landing through the open air it should necessarily, it seems to me, return to carbonate, and what is accomplished by the whole process? That is the purpose—to test on cross-examination what he said on direct, that those particles that come out of the stack, instead of being loaded into the truck travel in the air, and in the course of that travel through the atmosphere of a half mile to a mile, returned to the original form of carbonate and ceased their oxide form.

(Testimony of L. H. Duschak.)

The Court: What I have in mind is this: I want to follow the testimony. We are going into minute details on this phase that may be an important phase of it, but I am trying to keep in mind that I have a calendar next week.

Mr. Naus: But the difficulty is, if your Honor please, your Honor realizes—I know you do through all your years of experience—when an expert takes the stand and on direct gives an expert opinion on a scientific question, there is no way to test the validity or value of that opinion except through an approach of this kind. I couldn't ask him whether since he testified on direct he has changed his mind. I have to seek to reason with him.

The Court: I just wanted to give you that admonition. [345]

Mr. Naus: I will do the best I can, if the court please. May I have the last question?

The Witness: I think I could dispose of that——

The Court: We will get into difficulty now. Never volunteer anything.

Mr. Naus: I got a lot yesterday that way that I would never have gotten otherwise. Will you read the question, Mr. Reporter?

(The last question and answer read.)

The Witness: May I qualify that answer by suggesting that the truck body is tight and it is only the surface layers of the material in the truck that are exposed to the atmosphere.

Mr. Naus: I will be glad to accept the qualification.

(Testimony of L. H. Duschak.)

Q. Now, at least some of that crushed and calcined dolomite that travels 18 miles through the atmosphere—will some of that return to carbonate in the course of the trip?

A. Yes, a small amount. Mr. Garoutte testified this morning as to the pick-up in weight, I think he called it.

Q. Mr. Garoutte testified to the pick-up in weight——

A. Of the calcined material.

Q. Only at the end of the calcining process. He did not touch upon the question of the movement of that end product after the calcining process.

A. This movement takes place after the calcining process.

Q. That is why I say he did not testify to it. Now, to what [346] depth in that truckload will that calcined dolomite return to its original form? That is to say, the calcium and the magnesium, its original form of carbonate?

A. I have no way of answering that question. I have not made any tests on that point.

Q. What is the depth of that truck load as it moves away from Natividad?

A. The trucks, I would say, are filled to a depth of three feet or four feet.

Q. Yes, three or four feet. What is the cubical contents or tonnage weight of a truckload of it as loaded there?

A. I really do not know. I think about 10 tons, but I may be high or low on that. I do not know the capacity of their trucks.

(Testimony of L. H. Duschak.)

Q. Then is this a fair statement of the situation, that starting out with a truckload of that calcined dolomite, after it has gone through the calcining plant, that in the course of travel of 18 miles through the atmosphere, these open truckloads, that it will arrive at Moss Landing with some of it returned to carbonates and some of it still oxides, and some of it perhaps hydroxides?

A. Yes, that is a correct statement. We should add that there will only be a small amount which will have reverted to carbonate or have been converted to hydroxide.

Q. You mean just a thin coating at the top of the load?

A. Well, I mean a thin coating on the particles which have had some exposure to the atmosphere, yes.

Q. Now, as a professor of chemistry, and from all the knowledge [347] and thought that you can give to the subject at the moment and all the background that you have had, how deep down would you have to go from the top of that truckload, penetrating it perpendicularly, to encounter calcium oxide?

A. I am not sure that I understand what you mean by encountering calcium oxide?

Q. I will put it a little differently. As I understand you so far, here we will have a truckload of something that up in the quarry started out mainly as calcium carbonate and magnesium carbonate, am I correct?

A. That is correct.

(Testimony of L. H. Duschak.)

Q. And after going through this calcining process we have an end product that originally comes out as calcium oxide and magnesium oxide, isn't that so? A. That is correct.

Q. And at sometime after exposure to the atmospheric air some of that in turn will become calcium hydroxide and magnesium hydroxide, do you follow? A. Yes.

Q. All right. Now, you say that after exposure of a particle, at least, of what was originally an oxide, exposure to the atmosphere, it rapidly returns to its original carbonate form; I think you said that yesterday.

A. I said that with reference to these small particles, yes.

Q. And you are saying it today, also, are you not, with respect to a thin layer on top of a truck-load when it is exposed to 18 miles of travel through the atmospheric air? A. Yes.

Q. Going through that thin layer on top, at the end of that 18 miles of travel, how deep down would you have to dig into it to [348] penetrate through all that is carbonated to reach the top of what is still oxide?

A. I have no way of answering that question.

Q. As an expert on the subject, would you give me your best estimate or opinion?

A. Well, I suspect that probably most of the grains of material in the truck have a thin film of carbonate and hydroxide on the surface by the time these loads reach Moss Landing because of the ini-

(Testimony of L. H. Duschak.)

tial reaction between the calcined particles and the carbon dioxide and water vapor is very rapid.

Q. Then I will reframe the question: How far would you have to dig into this load from the top down to penetrate through the particles or pieces or fragments that had become wholly carbonated?

A. I haven't any reason to think that any of the particles had become wholly carbonated.

Q. Does that include those particles in that truckload that are of very fine minuteness?

A. There aren't very many very fine particles in a truckload.

Q. There are some, aren't there?

A. A few, yes.

Q. Addressing yourself to them.

A. Well, I would expect that particles of a size comparable to the stack dust particles might be pretty well carbonated. It all depends on what opportunity they have had to come in contact with the carbon dioxide and the moisture of the atmosphere, and that is, one might say, a more or less accidental thing, depending on where they were in the bin, how they were delivered to the truck—there is no ab- [349] solute regularity in the mechanical behavior of these particles.

Q. Well, even those very fine particles of no greater size than those that come out of the top of the stack, will many of those in the truckload still contain some oxide?

A. They might or might not, depending on the extent of their exposure to the atmosphere.

(Testimony of L. H. Duschak.)

Q. In an open truck aren't they fully exposed?

A. Well, we have to bear in mind that if we have a truck with a tight body—let us say that is comparable to a tumbler, here, which is open only at the top——

Q. Yes.

A. The top layer of the calcined material will tend to absorb the moisture and carbon dioxide in the atmosphere, so that neither of those reagents may penetrate to the lower levels of the materials in the truck.

Q. Do you mean by that that it depends on the available moisture and dioxide in the air that is available for the appetite of this dolomite in the truck?

A. It depends on that, and on the extent of the exposure of the particles to those reagents.

Q. Let us assume an extent of 18 miles of exposure.

A. That is no way of measuring exposure that I am familiar with.

Q. How would you measure it? By time?

A. In terms of surface and time.

Q. What time is consumed in hauling that in the 18 miles from the time of loading at Natividad until the time of arrival and dumping at Moss Landing?

A. Well, I suppose it might be on the [350] order of three-quarters of an hour, an hour—I don't know.

Q. Well, that would be fairly close. Doesn't it get down, then, to this: That if you had one or two

(Testimony of L. H. Duschak.)

or a very small number of particles moving out of the stack or over the highway through the air they would all return to carbonate rather quickly, but if you have a fairly large mass, there wouldn't be enough moisture and carbon dioxide in the air to fully react on them and return them to carbonates in the half mile or mile of travel through the air?

A. I don't understand your question, sir.

Q. I will put it this way? Depending on the size of the mass of particles that were coming out of the top of the stack, this mass of stuff, each particle of which has an appetite for moisture and other chemical ingredients in the air, its appetite for that does not depend on how large a mass of particles is coming out of the top of the stack as to whether or not they will all be returned to their carbonate form at the time they land on the Pista orchard?

A. Not in this sense, because in all cases we have an excess of carbon dioxide present. We have all the carbon dioxide coming from the dolomite being calcined, plus the carbon dioxide from the fuel heating the kiln, so we have, oh, many, many times the necessary amount of carbon dioxide to saturate all of these particles. Moreover, all particles are dispersed. Each one is entirely surrounded by atmosphere. It is an ideal condition for the absorption and [351] reabsorption of carbon dioxide.

Q. Well, does it come to this, that the end product going away from Natividad in the truck is chemically identical at the beginning with the end product stacked out, or is lost from the top of the stack?

(Testimony of L. H. Duschak.)

A. No.

Q. Wherein do they differ chemically?

A. The end product which is loaded into the trucks is, we may say, completely calcined dolomite, which may have picked up a small amount of carbon dioxide and moisture, whereas the material which ultimately becomes the dust escaping from the stack consists in the beginning of quite a proportion of uncalcined dolomite particles.

Q. In other words, what comes out of the top of the stack, the particles differ between themselves in all the range from wholly uncalcined dolomite up to particles of fully-calcined dolomite and particles all the way in between in the stages of calcination, is that correct?

A. It is correct with one qualification, that any particle escaping from the stack will have already absorbed carbon dioxide to some extent.

Q. The carbon dioxide of the air?

A. Of the stack gas.

Q. Does that differ in any respect from the carbon dioxide of the air?

A. It is present in much greater concentration.

Q. In any other respect is it different?

A. Chemically it is the same substance.

Q. I thought so. Now, assume, Professor, that spread over a period of twenty-four hours there are four tons of particles [352] of stack loss that travel from a half mile to a mile to the Pista orchard as compared with 76 tons per 24 hours traveling, with that difference, en masse; would there be any dif-

(Testimony of L. H. Duschak.)

ference with respect to whether or not all of the particles went back to the carbonate form at the time of landing on the vegetation?

A. None, whatsoever.

Q. The difference in amount would make no difference to you?

A. No, because we still have a tremendous excess of carbon dioxide.

Q. By the way, you stated the other day the stack was 200 feet high, and the gentleman this morning gave a different elevation—

A. Yes, sir, I think I was in error.

Q. What is the height?

A. I do not know exactly. I had some preliminary plans and I haven't checked. I would be willing to accept Mr. Garoutte's statement as accurate.

Q. I do not want to press it. We can all make wrong estimates of height. At the moment you are not prepared to say what the height is, or approximately is?

A. Not with certainty, no. I saw some preliminary plans, but I have not examined the final plans.

Q. You spoke of taking some analyses a hundred feet up in the stack, as I understand it.

A. Yes. My impression now is I should have said about 70 feet up.

Q. Let me see. Do you correct your original testimony that the samples taken at a hundred feet were taken half way up the stack, whatever the height is?

A. No, it was more than half way up. [353]

(Testimony of L. H. Dusehak.)

Q. Did you in taking these samples make any note or make any observation as to the height above the bottom of the stack from which you were taking them?

A. I think the photographs we have will show a platform which was specially built for sampling purposes, and they were taken at that point.

Q. If we assume for the moment, until we know better, that Mr. Garoutte is right in suggesting a height of around 120 feet——

A. Yes.

Q. —then would I be correct in understanding you that there is only a further elevation of 50 feet to the top of the stack from the point where you took the samples?

A. Yes.

Q. So, from that point up any change we have talked about or direct as necessarily occurring within a distance of 100 feet now turns out to be addressed to a situation where it is only half that further elevation, isn't it?

A. Yes, but I do not recall speaking of anything that took place in that specific dimension.

Q. At an elevation of 70 feet above the bottom of that stack, in taking your samples for chemical analyses, did you find any calcium oxide present in the particles?

A. Yes.

Q. Did you find any calcium hydroxide present in the particles?

A. No.

Q. You would not find the hydroxide until after it had escaped out of the stack, would you?

A. I did not test for hydroxide. That is the reason I did not find it. [354]

(Testimony of L. H. Duschak.)

Q. Perhaps we can pass the subject by saying you do not know at the moment whether there was any calcium hydroxide present or not at an elevation 70 feet above the bottom of the stack, do you?

A. I have reason to think that there was a small amount, yes.

Q. Now, you have never taken any samples at the top of the stack? A. No.

Q. In other words, you have never made any actual chemical analysis of the particles at the point where they escape from the top of the stack?

A. No.

Q. Is calcium oxide a caustic? A. Yes.

Q. Is calcium hydroxide caustic? A. Yes.

Q. Is magnesium oxide caustic?

A. Mildly so, yes.

Q. Is magnesium hydroxide caustic?

A. No, not in the usual sense of the word. May I explain?

Q. Surely.

A. The distinction there is in the matter of solubility. When we bring calcium oxide in contact with water it forms calcium hydroxide, which has an appreciable solubility with water. Neither magnesium oxide nor magnesium hydroxide have an appreciable solubility. Our Moss Landing process of precipitating magnesium hydroxide would be impossible if it were not for the very high insolubility of magnesium hydroxide in water. So that while in one sense we might say that magnesium oxide and magnesium hydroxide are caustic materials, they

(Testimony of L. H. Duschak.)

are ineffective as such because they are insoluble in [355] water.

Q. In any event, calcium oxide could be spoken of very simply and colloquially as a caustic lime, couldn't it? A. Caustic lime, yes.

Q. That is what it is in common speech?

A. It is one of the common terms for it.

Q. Is calcium oxide alkaline?

A. It is an alkali.

Q. Is the same true of calcium hydroxide?

A. Yes.

Q. How about magnesium oxide?

A. That is an alkaline oxide.

Q. How about magnesium hydroxide?

A. That is an alkaline hydroxide.

Q. You told us the other day you have made some studies of pollinization; you recall that, don't you? A. Yes.

Q. Page 206: "A. Yes, I have made some studies of the processes involved in pollinization and of the chemical circumstances which may affect that process."

Take the stigma in an apricot blossom. That is part of the fertilizing medium of the blossom, isn't it?

A. I would say part of the fertilizing mechanism.

Q. Mechanism—I will accept the statement. Now, does that stigma secrete or exude some substance?

(Testimony of L. H. Duschak.)

A. Yes, at a certain time in the development of the blossom it secretes a small amount of viscous fluid.

Q. Is that viscous fluid thus secreted part of the process of pollinization and fertilization?

A. Yes, that is an [356] essential part of the process.

Q. Is that viscous fluid acid or alkaline?

A. It is stated that it is slightly acid.

Q. Calcium oxide coming in contact with that would neutralize that acidity, wouldn't it?

A. It if dissolved, and if the quantity were sufficient.

Q. Now, you say if it dissolved. That viscous fluid contains some H_2O , does it not? A. Yes.

Q. Calcium oxide has a strong appetite for H_2O , has it not? A. Yes.

Q. As a matter of fact, wouldn't a deposit of calcium oxide on that viscous fluid secreted by the stigma immediately draw out of that viscous fluid the water in it and into the calcium oxide?

A. If we are speaking of a grain of pure calcium oxide, the answer is Yes.

Q. Let us speak of a grain of calcium oxide that came immediately and directly from the calcium carbonate of that quarry on the hill there in Natividad. Wouldn't that have a strong appetite for the water or the H_2O in that viscous fluid of the stigma?

A. I don't know any way of getting a grain of pure calcium oxide from that quarry on the hill, because that is dolomite.

(Testimony of L. H. Duschak.)

Q. Then let us call it an impure calcium oxide that was originally quarried out of the rock on the hill. Would that impure calcium oxide have a strong appetite for the water or H_2O in [357] that viscous fluid of the stigma? A. Yes.

Q. And if that calcium oxide landed on that viscous fluid it would exercise its appetite, take the water of the viscous fluid, and turn the calcium oxide into a hydroxide, wouldn't it?

A. Yes, if the particle were calcium oxide on the surface.

Q. Wouldn't that simply be the difference of changing it from a slaked to an unslaked caustic lime? A. Yes.

Q. Generating the heat and with the destructive power that the slaking of caustic lime generates?

A. Yes, I would expect that. I would expect that if a particle of calcium oxide lands on some moist vegetable surface and reacts with moisture there, that there would be a certain amount of heat generated and probably a little burn or caustic action, as we call it, evidenced.

Q. If that occurred on the viscous fluid or secretion of a stigma on an apricot blossom would you not expect that it would destroy fertilization?

A. Without question.

Q. There is no doubt about that, is there?

A. No doubt about that at all.

Q. And it would not take but a very fine particle of calcium oxide to accomplish that, would it?

A. No, a rather small particle would—

(Testimony of L. H. Duschak.)

Q. How small a particle would accomplish that?

A. I have never tested that or calculated it, so I—— [358]

Q. I will put it this way, then: Would a particle as small as the smallest particles of this stack loss that we have talked about do it? A. No.

Q. Would two of them do it?

A. In speaking of the size of these particles, I said that they ranged down to very minute particles.

Q. And up to 325 mesh, didn't you?

A. Yes, and coarser than that also. We have a whole range of particle size.

Q. Would one particle of a 325 mesh destroy the fertilization in the manner that we have been discussing?

A. You are assuming a 325 mesh cube of calcium oxide.

Q. A 325 mesh particle, whether a cube or not—a cube or sphere, or any of the geometrical shapes in between.

A. Yes, I would think a particle of that size that consisted of calcium oxide and nothing else would undoubtedly be sufficient to neutralize the stigma.

Q. Let us take a particle consisting wholly of calcium oxide. Let us take one particle consisting of one particle of 325 mesh that is around 40 to 50 percent calcium oxide, or in the percentage that the calcium carbonate is originally present in the dolomite ore up on the hill.

(Testimony of L. H. Duschak.)

A. Are you assuming the presence of some calcium carbonate also?

Q. No, I am assuming the presence at the moment only of that amount of calcium oxide in the particle.

A. Whatever else was present. [359]

Q. Whatever else was present in the original form, according to your testimony. Let us say magnesium oxide and these small traces of impurities we have talked about, which I will abandon for the moment.

A. If I understand, then, your question is whether a 325 mesh particle consisting essentially of calcium oxide and magnesium oxide, if it landed on a stigma, would——

Q. Destroy fertilization.

A. Yes, I think it would.

Q. By the way, there has been considerable said here about the war effort and post-war, peace activities for this metal. Can you tell me whether the stockpile of metallic magnesium in the country today, such as this process produces, is an over-production in about the same extent that aluminum was recently discovered to be?

A. I know that there is a large surplus of magnesium in stockpile at the present time.

Q. Just digressing for a moment, you know of the great extent of the aluminum cutback recently in production?

A. Yes.

Q. Like anyone does; you read the papers.

A. Yes.

(Testimony of L. H. Duschak.)

Q. Isn't there a cutback right now in progress right now in the production of metallic magnesium such as you are producing right down here at Natividad? A. Yes.

Q. Hasn't it been just in recent months that the Kaiser or Permanente Metals Corporation magnesium plant at Lathrop has been shut down because of overproduction? A. Oh, at Lathrop?

Q. Yes.

A. Yes, that has been cut down recently. May I add [360] that that does not use the same process as Permanente.

Q. Does it end with the same result of metallic magnesium?

A. It may, but at Permanente they produce other than solid magnesium.

(Discussion off the record.)

Mr. Naus: Q. By the way, along this same matter of the war effort, this dolomite quarry on the hill at Natividad, is that something you need that is the only thing of its kind in the United States?

A. Oh, no.

Q. As a matter of fact, aren't deposits of dolomite pretty common throughout the United States?

A. Well, they are moderately common. I wouldn't say pretty common.

Q. I will put it differently. Take this dolomite quarry up on the hill at Natividad. Are there other deposits of this dolomite throughout the country that could be said to be in competition with it for

(Testimony of L. H. Duschak.)

the purpose to which it is being put, or that could be used for the same purpose?

A. None that I know of, in competition with it, if you are speaking economically and industrially.

The Court: Q. Does it depend on the material?

A. On the quality of the material and on its location with relation to other operations.

Mr. Naus: Q. Quality of material and location. Take quality of material first. Is there no other dolomite deposit in the country of as good a quality?

A. Oh, I am sure [361] there are many.

The Court: I am afraid we are going afield.

Mr. Naus: I thought we were going afield, if the Court please, when we got beyond subjects one, two and three on this Exhibit A the other day. I am merely trying to meet what was introduced then on direct examination. I will have to admit I am going afield. I shall try to limit it.

Will you read the last question and answer?

(Record read.)

Mr. Naus: Q. Are there no other dolomite deposits in the United States of equal quality?

A. There are, I am sure.

Q. Many? A. I think there are many.

Q. That reduces, then, to the matter of location, does it not, as to the uniqueness of this dolomite quarry at Natividad?

A. Yes, to location and ease of extraction of the dolomite.

Q. Would this be stating it fairly, then, that

(Testimony of L. H. Duschak.)

the selection of a quarry at Natividad is merely to get a cheaper cost of operating?

A. Well, I could not fully answer that. That is one obvious reason for locating this operation at Natividad.

Q. Then another thing: Whatever the reason for the selection of that quarry, couldn't you end up with exactly the same end product of metallic magnesium down there at Saratoga or wherever it is if there were no calcium plant at all near the quarry, but if the calcium plant were, for example, over at Moss Landing? [362] A. Yes.

Q. And would that entail anything more than the additional cost of transportation of the raw dolomite from the quarry to Moss Landing over the lesser cost, the lesser travel of the calcium product over the same route?

A. I couldn't think of any other important consideration. There may have been some other advantages in locating the calcining plant close to the quarry.

Q. There is natural gas and fuel oil available at Moss Landing, isn't there?

A. I think not natural gas.

Q. Is there any difficulty about having some there if needed?

A. Well, we would have to ask the P.G. & E.

Q. In any event, you have natural gas in Saratoga, haven't you? A. Yes.

Q. You use that to shock cool, don't you?

A. Yes.

(Testimony of L. H. Duschak.)

Q. Large quantities of it? A. Yes.

Q. It is piped right to you there?

A. Yes.

Q. You can get just as much there as you can at Natividad, can't you?

A. More, I believe.

Q. Let me put this question to you—not that I expect anyone but his Honor to pass upon the question of the injunction, but just to test this operation—if an injunction should issue against the defendant here, against depositing dust on the Pista orchard, and if the defendant here should conclude that that would entail shutting down the calcium plant at Natividad, you could immediately reconstruct that same plant at Moss [363] Landing and go right ahead with the production of metallic magnesium, couldn't you?

A. I don't think you could.

Q. Why not?

A. I do not think you could get the material.

Q. Then assume further that you could get the materials. Assume you could get the labor and materials to reproduce the plant at Moss Landing. Then isn't it the fact that any injunction here would entail no more, at the most, than the reconstruction of the plant, say, at Moss Landing or somewhere else?

A. I am not entirely able to say what the effects of the injunction would be, because I have not been told just what is the contents of the injunction.

Q. I can't tell you the contents. I can't even tell

(Testimony of L. H. Duschak.)

you there will be one, Doctor, but I am just testing this great interference with the war and the peace effort that has been talked about here. Assuming an injunction that enjoined the defendant from depositing any dust on the Pista orchard, then what? Couldn't you go right ahead with your whole process of putting out metallic magnesium by the simple method of putting up a calcium plant somewhere away from where it now is and at a distance that it would not deposit dust on the Pista orchard?

A. Theoretically it is perfectly possible, yes.

Q. I am having you assume the availability of materials and labor to put up a plant.

A. Yes, sure.

Q. That is all an injunction would entail, isn't it, that such an injunction would entail?

A. I do not think I am [364] qualified to answer that.

Q. Now, this quarry at Natividad, what do you as a metallurgist or an expert in this field, someone who has been down and looked the situation over and investigated—what do you estimate or say the probable tonnage of unquarried or unmined dolomite in sight to be?

A. I never made any estimates of the quantity of material there.

Q. Do you know whether there is enough to run more than a year, or on the other hand if there is enough to run for a hundred years, or do you know anything about it?

(Testimony of L. H. Duschak.)

A. I have reason to believe that there is enough to run for several years more.

Q. And by "several years" you mean approximately what—not being exact about it, but doing the best you can?

A. Five, ten or fifteen years anyway.

Q. Going back to a question I asked a while ago, and then I got diverted, can you give us any idea of the size of the stockpile or the extent at the moment of the overproduction of metallic magnesium?

A. You mean in the form of ingots, not this special dust they make at Permanente?

Q. In the form of ingots—that is the more usual or common form, isn't it?

A. That is the form that is used for casting.

Q. You convert from ingot to dust and vice versa?

A. You convert from dust to ingot at Permanente. [365]

Q. Yes.

A. No, I have no figure in mind at the moment as to the stockpile of magnesium ingot at the present time. I know it is large.

Q. Can we go at it this way: Couldn't you give his Honor any indication, for example, if the war with both enemies were for two years more, if there is enough magnesium on hand right now to keep the war going so far as anyone knows?

Mr. Moore: I do not want to interrupt, Mr. Naus, but I think we are getting away from the

(Testimony of L. H. Duschak.)

direct examination. We have an engineer whom we propose to call as a witness and who has all the facts you are asking the Doctor for.

Mr. Naus: If I had known that I would not have pressed so far here. I had no way, of course, of knowing what witnesses might be called. With that statement of counsel I will desist from any further questioning on this subject, if the Court please.

Q. Now, Doctor, take down around that calcine plant at Natividad; is there any predominant wind direction there? What I am trying to get at is what proportion of the total time, of the whole 24 hours a day, is the wind blowing in the direction from the stacks to the Pista orchard?

A. I have not examined the wind records in detail, so I really couldn't make a very good answer to that question.

Q. Have you any impression about that? You have been talking about wind. You wrote a report about wind. I want to test you a little bit here to see what we can learn about it. [366]

A. Well, I have some impression from that survey that I made in November 1942 in which I sought out the areas in which a visible deposition of dust had occurred, and it extended farther along the general line running from the plant toward the Pista orchard and beyond than it did in the opposite direction.

Q. Then from the standpoint of not being familiar with wind records or observation of the wind, but from the standpoint of a scientist or engineer

(Testimony of L. H. Duschak.)

going around and looking over the deposition of dust on the ground, the greater amount of dust was deposited in the compass direction that approximates the direction from the stack towards the Pista orchard?

A. Yes, but over considerably more miles, that is, I found it extending farther away.

Q. Was it in that compass direction that you found a range or a radius of about three miles from the stack in speaking of the deposit of dust?

A. Yes.

Q. Then taking the radii in other directions from that stack, the deposit extended less than two miles, didn't it? A. Yes.

Q. Do you know the location of the ranch of Mr. Wilmoth, who was on the stand this morning?

A. Approximately, yes.

Q. What is the compass direction from the stacks towards the Pista orchard, and what is the compass direction from the stacks towards Mr. Wilmoth's orchard?

A. I couldn't state those very accurately. [367]

Q. All right, then, I will pass that. In compass direction, whatever it is, from the stack toward the Wilmoth orchard, how far out do you find that, or did you find that deposit of dust?

A. I visited the Wilmoth orchard on one occasion and found a very, very few particles of dust showing on some foliage there.

Q. When was that?

(Testimony of L. H. Duschak.)

A. I think that was in the fall of 1942 when I made that survey.

Q. When you say fall of 1942, do you mean around November and December—

A. November.

Q. November 1942? A. Yes.

Q. The deposit of this dust on any vegetation in any direction has a cumulative effect, has it not?

Mr. Moore: Cumulative effect? I do not like to object, but cumulative effect on what, Mr. Naus?

Mr. Naus: I will change it.

Q. Much of this dust deposited on vegetation encrusts and sets on the vegetation, doesn't it?

A. Yes, it tends to remain on there, although I found cases where it had obviously washed off or washed down into little grooves along the midrib of the leaf. It did not appear to adhere very tightly, and I never observed any caustic effect, any burning effect, of the dust.

Q. When you visited Mr. Wilmoth's orchard in November 1942, that was the only occasion on which you visited it, wasn't it? [368]

A. That is my best recollection, yes.

Q. At the time of your visit the calcine plant had not been in operation more than two or three months at the most, had it?

A. About three months.

Q. So that at that time there was very small cumulative effect of the encrusting of this dust on any vegetation anywhere near the Natividad plant, isn't that true?

(Testimony of L. H. Duschak.)

A. There obviously had been only three months in which dust could have accumulated.

Q. From whatever amount you saw there in November 1942, if you had gone there at some later date, say in 1943, up until August 1943, you necessarily would have expected to find more deposit encrusted on Mr. Wilmoth's vegetation, would you not?

A. It all depends on whether the vegetation had continued, persisted, so to speak.

Q. Yes.

A. I found later in 1943 when I went over that same territory plenty of evidence of the dust having been washed off from leaves, presumably by rainfall or by fog condensing.

Q. At the time you visited this gentleman's orchard in November 1942 were there any leaves at all on his apricot trees?

A. I think not. I think that I looked at weeds and other growth at that time.

The Court: Your assistant has arrived, Mr. Reporter. Give him an opportunity. We will take a recess for a few minutes.

(Recess.) [369]

Mr. Naus: Shall I proceed, your Honor?

The Court: Yes.

Mr. Naus: Q. Now, Doctor, this matter of whether the calcium is in oxide or carbonate form when it lights on the vegetation in the Pista orchard has to do only with the qualitative effect of the cal-

(Testimony of L. H. Duschak.)

cium, does it not, with respect to preventing fertilization?

A. No, very definitely with the quantitative effect.

Q. Whether it has or has not fully returned to carbonate has to do merely with whether it is caustic?

A. Yes, whether it is a caustic alkali or an essentially neutral substance.

Q. Assume for the moment particles that have fully returned to the carbonate form of calcium, there could be a quantitative effect of them, could there not, on the fertilizing medium and processes of an apricot blossom?

A. I have no reason to think that it had any effect on the fertilization.

Q. Well, could not there be a sufficient deposit of particles of calcium carbonate to physically or manually obstruct fertilization—to act as a contraceptive?

A. There could conceivably be a sufficient pile-up of inert articles, let us say, to prevent the pollen from touching the stamen.

Q. It wouldn't take very many particles, would it, in the minute space involved in the fertilizing medium and processes of an apricot blossom to manually or physically act as a contraceptive and prevent fertilization?

A. Well, it would have [370] to be a continuous coating. The pollen grains are pretty small, and the

(Testimony of L. H. Duschak.)

stigma does not have to be covered with pollen. Just a few grains rooting there will do the trick.

Q. Does the pollen grain have to travel down the style?

A. Well, a pollen grain sprouts in a way something like the sprouting of a seed, and a filament from it travels down the style into the ovary.

Q. It enters the stigma first and then travels down?

A. It sprouts at the stigma and then travels down the style.

Q. What is the inside opening of the style in an apricot blossom?

A. It is a very minute channel.

Q. Very minute? A. Yes.

Q. What is the diameter of that channel?

A. Well, I have never measured one; I don't know. It is microscopic.

Q. Microscopic. Let me ask this: If a particle of calcium carbonate of 325 mesh entered that style, would it fully obstruct it and act as a contraceptive?

A. No, because there are many little tubules, if you like, which communicate with this channel running down it. This process of the development of the pollen grain, I think, can be fairly likened to the germination of the seed and the travel of the root down into the ground. It more or less forces its way through—into the soil.

Q. It has to travel the full length of the style, does it not? A. Yes. [371]

(Testimony of L. H. Duschak.)

Q. To reach the base or the ovary?

A. Yes.

Q. To fertilize? A. That is right.

Q. Would it take more than one or two particles of calcium carbonate of 325 mesh to accomplish that—to accomplish the obstruction somewhere in the full length of that style before reaching the ovary?

A. Well, I really don't know. I have an idea if a little particle were in there, that the filament from the pollen grain would grow around it.

Q. Let me ask you this, then: As you sit there on the stand suggesting to his Honor that you are prepared to give him some expert information about the pollination in an apricot orchard, can you or not say on your oath definitely and positively one way or the other whether or not particles of calcium carbonate running 325 mesh and smaller—whether they would physically obstruct the style and prevent fertilization getting into the ovary?

A. If there are enough of them, yes.

Q. How many would it take?

A. Well, I couldn't—

Q. In your opinion, or do you know?

A. No, I don't know off-hand. I could make some calculations.

Q. I see. Now, another thing: How does pollination occur—is it self-pollination or cross-pollination in an apricot blossom?

A. It is believed to be both.

(Testimony of L. H. Duschak.)

Q. Well, now, you are the only one who has gotten up there to put yourself forward to his Honor as an expert. Which is it?

A. Both. [372]

Q. Both?

A. It may be either. In one blossom it may be self-pollinization and in another blossom it may be cross-pollinization.

Q. In what manner does pollination in an apricot orchard predominantly occur?

A. I don't know. My impression is that there is quite a little of both.

Q. This cross-pollination—is that air pollination or insect pollination that occurs in an apricot orchard?

A. It may be both.

Q. Which is it?

A. Both.

Q. Take up insect pollination. If you have a considerable volume or mass of fine particles of calcium carbonate of 325 mesh or smaller in the air, isn't that something that insects shun and go away from?

A. Not—I don't know that they do.

Q. You don't know one way or the other do you?

A. No; I have seen plenty of insects along dusty roads.

Q. Flying in a cloud of fine dust?

A. Yes, mosquitos lighting on my face.

Q. Now, are you prepared to reason and testify from that that the insects that do the insect pollination in an apricot orchard, whether they will or

(Testimony of L. H. Duschak.)

will not shun a large mass of particles of calcium carbonate coming out of the Natividad stacks?

A. Well, I have never seen any situation anything like that—any large cloud of particles and a swarm of insects, so I really don't know. [373]

Q. Now——

A. I might say that no fall of particles that I have ever witnessed around Natividad seemed to be anything that insects could possibly notice. I have never seen a particle actually fall on a surface. I have seen surfaces on which particles have fallen, but I have never actually seen a particle fall.

Q. I am frank to say—perhaps you can tell us, how small a particle these pollinizing insects can see.

A. I don't know.

Q. Coming back to your answer the other day that, basing it upon your tests of a few days ago and reasoning from that, you reached a maximum of 76 tons a day of dust coming out of those stacks; you recall that range of 56 to 76?

A. No; that was the possible dust production, less the amount which I determined to escape from the stacks.

Q. Then before the Cottrell system was installed, the precipitators, what was the total tonnage of dust escaping per 24 hours from the top of those stacks when the two kilns were running full production, full feed?

A. I have no information on that, except I know it was considerably less—or perhaps I should say

(Testimony of L. H. Duschak.)

I have good reason to believe it is considerably less than this larger amount that you just mentioned.

Q. What is the maximum that you would put?

A. Oh, for the two stacks I should think——

Q. Yes, full feed. A. Well——

Q. 24 hours.

A. The full feed before the Cottrell was [374] installed was less than the full feed after the Cottrell was installed.

Q. Whatever the full feed was before that Cottrell was installed, assuming that full feed before that installation, what was the total amount in tons of dust escaping from the top of the two stacks?

A. My best information on that subject would be the information which I obtained from Mr. Garoutte and which he reported this morning, which was based on his material balance.

Q. Can you make a short answer in tons, in numerals? A. Say 30 tons.

Q. All right. You can say, can you not, that if that dust was blowing toward the Pista orchard, it would be blowing over there at the rate of 25 or 30 pounds a minute?

A. Oh, my, no. It will spread out over a big area. Only a small fraction of that dust would actually travel over the Pista orchard.

Q. Now, has it spread over a long area at any given moment when the wind is in one direction, or is it just a swath in the direction of the wind?

A. No, it spreads out in sort of a fanlike formation.

(Testimony of L. H. Duschak.)

Q. It would be several hundred trillions of particles of dust per minute, wouldn't it?

A. Yes.

Q. Per minute?

A. Yes; if we assume that they are all very fine particles. [375]

Q. I am assuming the particles that you have been testifying about.

A. Well, now, just a moment. I testified about 46 micron particles and about 5 micron particles and about 10 micron particles, but there are particles coarser than that and particles finer.

Q. Having the number of pounds we are dealing with, wouldn't you say that there is at least a trillion of those particles blowing in the direction of the Pista orchard per minute when the wind is that way?

A. Blowing in the direction, yes.

Q. When the wind is that way?

A. I think that is undoubtedly true.

Q. With that volume of dust in the air and as a pollination expert, tell me whether or not the pollinizing insects would shun that amount of dust.

A. Well, we have got to get the picture a little clearer. From my examination of this dust cloud—smoke cloud, if you will,—

Q. Dust, I prefer.

A. Dust cloud; very well. It has risen considerably above the top of the stack and spread out in considerable dimensions. From this smoke stream or dust stream, if you like, particles are continually descending toward earth.

(Testimony of L. H. Duschak.)

Q. And the nearer the stack the greater the amount?

A. Yes. A good deal of the material falls right on the Natividad Permanente property or within a few hundred yards of the base of the stack. The coarser particles fall there. The finer particles go sailing off. But I have never seen any condition there which would [376] suggest anything that one could call a cloud of dust in the vicinity of the Pista orchard when I was down there in the fall of 1942. Before the precipitators were in, I saw this dust cloud coming from the stack, and I could see it against the blue sky, but up along the Gabilan Creek road near the Pista orchard I never saw anything that you could call a cloud.

Q. Let's get down to the one thing that I want to know if you can tell us anything about it—whether with the volume of dust particles we are speaking of, whether or not the insects, the pollinizing insects, would tend to shun that mass of dust.

A. I don't think that the insects would know that there was any dust around.

Q. They would be wholly unaware of it, would they?

A. That is my impression. Of course, I am not an insect; I don't know how they feel about it.

Q. Now, let's see. If at some time in the air there were any particles in there that still were in the oxide form—hydroxide form—and having in mind the moisture in the insect, they would tend to burn or dry the insect up, wouldn't they?

(Testimony of L. H. Duschak.)

A. Yes.

Q. Would the pollinizing insects shun that?

A. There aren't any of that kind of particle present.

Q. If there were would they shun it?

A. Again, I never asked the insects. I don't know.

Q. Is that a flip way of saying you don't know?

A. No, I don't mean to be flip at all, but we kill a good many [377] insects with various kinds of sprays, and I don't know whether the insect would be at all aware of, let us say, a particle of caustic lime. It is conceivable that some of them would perch right on it and kill themselves in that way.

Q. Are you basing that on a scientific study or basing that upon conjecture or guesswork or a partisan view—which?

A. Well, I am basing that on my knowledge of insecticides. I helped to manufacture insecticides for a number of years and knew something of their use. There are certain contact insecticides that kill insects by just touching their bodies.

Q. You spoke of air pollination, I think, too, as well—the pollen being carried by the air from one blossom to another, is that correct? A. Yes.

Q. As these particles of dust were descending from the atmosphere down onto the Pistal orchard, would or would not those particles—any one of them be enough, on coming in contact with that air-borne pollen, that very light pollen—be enough

(Testimony of L. H. Duschak.)

to gum with it or clump with it and bring it down to the ground instead of into another blossom?

A. I am quite sure that they wouldn't; those fine dispersoids tend to stay away from one another. They don't tend to flocculate or coagulate.

Q. Have you ever made any personal study or ever done any reading upon the subject?

A. Well, I have made a good deal of study of the behavior of fine particles in the atmosphere, yes.

Q. Fine particles of pollen?

A. No, of various kinds of dust. [378]

Q. I am speaking of pollen. Have you ever made any personal study or experiment yourself or ever read anything in the literature anywhere of any kind from which you can say one way or the other, outside of a partisan guess, whether these particles of dust out of the top of the stack would clump or adhere to or with air-borne pollen and tend to bring it to the ground instead of letting it drop into a blossom?

Mr. Moore: I am going to object to the question, your Honor, as argumentative, and particularly that portion of it, "aside from partisan bias," or something of that kind that Mr. Naus threw in there.

Mr. Naus: I didn't say "partisan bias"; I said "partisan guess." I asked him if he has anything beyond or in any form different than a partisan guess on which to base his answer.

Mr. Moore: There is no evidence here that he made any partisan guess.

(Testimony of L. H. Duschak.)

The Court: You are assuming a fact not in evidence that he is making a partisan guess.

Mr. Naus: I don't know. I thought that letter is enough *prima facie* showing that he is a partisan—that letter he wrote back in November 1942. If that didn't make him one, I don't know how to go about establishing a foundation for one.

The Court: I haven't so concluded yet.

Mr. Naus: Then I will reframe the question, with your Honor's permission. [379]

Q. Have you ever made any personal study or experiment yourself or read anything in the literature anywhere on the subject with respect to whether or not particles of dust in the air will merge or adhere—merge with or adhere to air-borne pollen and tend to cause it to drop to the ground rather than in another blossom?

A. I can't recall having read anything about pollen particles, but I think I can answer your question just on the basis of the behavior of fine particles generally.

Q. I just want the question that I asked, not the one that you prefer me to ask, Doctor. Let's stay with it.

A. Will this satisfy you if I say that if we have a pollen particle here, and let us say a 325 mesh particle hits it amidship and the pollen particle sticks to it, undoubtedly they will go to the ground together and we will have killed one pollen grain. That is perfectly conceivable.

(Testimony of L. H. Duschak.)

Q. Just to complete the question and answer I will break it down, then. No. 1: Have you ever made any personal experiment in that field?

A. No.

Q. Have you ever made any personal study in that field—that narrow field?

A. I have. My study of the behavior of fine particles in the air would include pollen particles. They are in a sense not different from other particles except they are of a particular composition.

Q. I am asking you whether you have ever made any personal study of pollen particles as such.

A. Of their behavior in [380] the atmosphere?

Q. Yes. A. No.

Q. Have you ever read anything in the literature anywhere with respect to pollen particles as such having particles of dust fall upon them?

A. No, I can't recall that I have.

Q. Now, whatever the height of the stack down there, was the height of the stack determined in the design before or after the Cottrell precipitator was decided upon?

A. Before. The stack was designed as part of the original plant.

Q. What is the relation between the height of the stack and the efficiency of the Cottrell precipitator system with respect to preventing dust particles from escaping from the top of the stack?

A. Absolutely no relation. The stack could be 10 feet or a thousand feet high.

(Testimony of L. H. Duschak.)

Q. It wouldn't make any difference to that system?

A. The effect of changing draft as related to the height of stack would have to be considered; but as far as the functioning of the Cottrell system itself, it makes no difference into what the gases from Cottrell are discharged; they might be discharged ground level or carried by a long flue into anything.

Q. The operation of this electricity in the way that you have told us and the way you have shown on the board, does that result in a uniform capture of the particles there throughout the length of the stack, or does it capture more at one spot in the stack than another?

A. This Cottrell precipitator [381] is a structure entirely separate from the stack and simply connected with it by a flue, and sometimes with a fan in between. Possibly my diagram misled you to thinking that I was indicating the stack.

Q. I thought you were.

A. No, no, that was simply illustrating the principle of the Cottrell process. No, the Cottrell precipitator is an entirely separate and different structure with this electrode system in it; just a big chamber, if you like, which has a gas inlet at one end and a gas outlet at the other, and this gas outlet is then connected to a flue or stack, or whatever one wishes to connect it to.

Q. Well, the dust enters the precipitator before any of it enters the stack, is that right?

(Testimony of L. H. Duschak.)

A. That is true.

Q. Now, you spoke something in that letter of November 1942 about the impossibility of drying apricots in the neighborhood of the Anderson and Pista orchards. Why is that?

A. The gist of my remark was that if the plant continued to discharge dust at the rate at which it had been discharging it during the—in the period prior to my visit, I judged that that dust would accumulate sufficiently on drying apricots to interfere with their marketability.

Q. Well, assuming four or six tons a day coming out of each stack and assuming the wind carrying it in the direction of the Pista orchard, and assuming that that is occurring during the time apricots are out on trays on the ground and being [382] dried, what effect, if any, will that dust have on those drying apricots?

A. It is my impression that there wouldn't enough dust fall on the trays of apricots on the Pista ranch, let us say at the present time, with the Cottrell operating as it is, to have any noticeable effect on the marketability of the dried fruit.

Q. Would it make that dried fruit any grittier than it would be if the dust were not in the air?

Mr. Moore: You mean now or before, Mr. Naus? What period of times are you referring to?

Mr. Naus: I am speaking of any time when there is four to six tons a day coming out of the stack and the wind taking it in the direction of the Pista ranch.

(Testimony of L. H. Duschak.)

A. Well, I am doubtful whether enough dust would fall on a given tray of apricots during the drying period to be noticeable.

Q. Would some dust fall on it?

A. Yes, undoubtedly some dust would.

Q. But you don't think that that would interfere with the drying apricot at all; is that your answer?

A. That is my answer.

Mr. Naus: That is all. [383]

Redirect Examination

Mr. Moore: Q. Doctor, there has been reference to the 325 mesh. Now, will you describe the character of the product that is placed in the trucks for the purpose of hauling over to Moss Landing, its general appearance, size and characteristics?

A. One would describe it generally as a granular material consisting of fragments of, say, half an inch or so in diameter, ranging down to perhaps grains the size of a mustard seed.

Q. Generally about the size of the end of your finger?

A. The larger pieces, yes; and then finer particles down to quite small grains,—very little what we would ordinarily call dust.

Q. And those lumps, if we call them that, were of a combination of magnesium and calcium oxide, is that correct?

A. Yes.

Q. And they are fed into this truck—I believe

(Testimony of L. H. Duschak.)

you said some of the trucks were opened and some sealed?

A. That is my best impression, yes.

Q. And do those lumps become partially carbonated, in your opinion, in the trip from Natividad to Moss Landing?

A. It is my opinion that those which are exposed to the air will pick up a little carbon dioxide on the surface; in other words, the surface of many of those pieces will acquire a slight coating of carbonate.

Q. And I assume that those pieces which are on the top of the truck, if we may term it that, the top layer, are the ones [384] that would pick up the carbon dioxide?

A. Yes, those that are most exposed to a changing atmosphere.

Q. Those that are deeper down in the truck would pick up less, is that correct?

A. That is correct.

Q. Now, with this dust—I believe you have already said it is practically microscopic—to see those particular grains——

A. The stack dust is very fine. Many of the grains are microscopic, yes.

Q. No dust comes out like lumps the size of your finger, or anything of that sort?

A. From the stack, no.

Q. And is the chemical constituency of those dust particles the same as the lumps, if you want

(Testimony of L. H. Duschak.)

to term them that, that are hauled over to Moss Landing? A. No.

Q. In what respect do they differ? .

A. These dust particles are partly carbonated.

Q. When they leave——

A. When they leave the stack, and that in two senses. Some of them consist of raw dolomite—the dolomite dust that has been picked up in the cooler end of the kiln and not ever been calcined; and others consist of partially or wholly calcined particles which have been recarbonated on the surface.

Q. Now, you said that, in your opinion, as I gathered, that from examination, by the time these dust particles reached the Pista ranch they became carbonated, is that correct?

A. Yes, that is my opinion, that they are pretty well, if not [385] completely, carbonated by the time they reach the Pista ranch.

Q. By that you mean they have become neutral and they have lost their causticity, in that correct?

A. Yes.

Q. Did you examine the foliage on the Pista ranch? A. Yes.

Q. Of the trees on it?

A. Yes, I made some examinations of the foliage there this year.

Q. And let me ask you, if these dust particles were of a caustic nature, would there be any evidence of its causticity so far as the foliage is concerned?

(Testimony of L. H. Duschak.)

A. I would expect to find some evidence of burning, of caustic action on the foliage.

Q. On the foliage. We will take the leaves. Would you describe what, in your opinion, would be the effect of caustic material being applied to those leaves?

A. Well, it would produce a little brown or yellow spot on the leaf.

Q. You examined the foliage there. Did you find any evidence of causticity on the leaves or foliage of the Pista ranch?

A. No, I could find none, whatever.

Q. And it is your opinion that this dust had returned to its original form of calcium carbonate, is that correct?

A. Completely, or nearly so, yes.

Q. Now, you were examined and questioned in regard to fertilization and pollinization. Would this calcium carbonate, as you have described it—in your opinion, would that affect the pollination of that apricot orchard—and I am referring now to 1943.

A. The only way that I can think of that it might affect it is by assuming the extreme case we discussed a few moments ago, where there is a sufficient pile-up of calcium carbonate grains to completely cover a stigma and blind it mechanically.

Q. You saw that ranch; you visited it in '42, while you were down there?

A. No, I didn't go on the Pista property in 1942.

Q. When did you go on the Pista property?

(Testimony of L. H. Duschak.)

A. I think it was in November, 1943. If I may just refer to my notes here—no, it was on December 3, 1943, that I first went on the——

Q. Did you observe any deposit of dust at that time on the foliage?

A. Yes, I remember observing dust on the foliage.

Q. Could you tell by that observation how long that dust had been there—how long it had taken to accumulate?

A. No, I had no way of knowing that, except by noting whether the plant was one that carried its leaves over the winter or shed its leaves. In amplifying that, I might say, not on the Pista ranch, but in the vicinity, we found some live oak leaves that had a coating.

Q. From your observation of the ranches and orchards in the neighborhood and from your observation of the plant, itself and its operation, would you say that there was at the time a sufficient cloud of dust to interfere with the pollinization?

A. No, I can't conceive that under any conditions there could have been a sufficient cloud of dust to interfere with pollinization.

Q. Then if I understand you correctly, in your opinion did this [387] dust, either by reason of its causticity or lack of causticity, or by reason of the volume, have anything to do with any lack of fertilization in the years 1943 and 1944?

(Testimony of L. H. Duschak.)

A. Probably none at all; but possibly a very slight effect in 1943.

Q. Very slight. Can you explain that further?

A. I base that statement on the fact that the quantity of dust was undoubtedly greater in 1943 than in 1944, and it is possible that a few of these dust particles containing some uncarbonated oxide in the center, might have reached the blossoms in the orchard in 1943; but I consider that the probabilities of that happening are pretty small.

Q. You think they were quite small?

A. Quite small, yes.

Q. Now, you were asked in regard to this dolomite deposit. Are you familiar with the dolomite deposits in this country?

A. Not particularly. I know of them in a general way, but I have never made any special study of them.

Q. Do you know why that particular dolomite deposit there was chosen by the Permanente people?

A. One reason was its convenient location, and another the fact that the calcium-magnesium ratio was so favorable. The term "dolomite" embraces quite a range of material, with varying proportions of calcium and magnesium; and for the purposes of the Moss Landing operation, this dolomite, or the particular composition there are Natividad was particularly desirable.

Q. In other words, we may put it this way:

(Testimony of L. H. Duschak.)

The percentage of [388] calcium carbonate and magnesium carbonate in that particular deposit are particularly favorable for utilization, is that correct? A. Yes, that is correct.

Q. Now, the use of sea water at Moss Landing is another very vital portion of this process, is it not? A. Yes.

Q. And the shock-cooling of the material at Permanente is a final and third step, is that correct?

A. Well, that is an essential step in the production of this extremely finely-divided metallic magnesium that is used for ammunition purposes.

Q. In other words, to have this process, if I understand it, you have to have the raw dolomite, plus sea water, and then this process that has been put in at Permanente, is that correct?

A. Yes.

Q. Now, you referred to the metallic magnesium. Mr. Naus asked you if there wasn't a slowing or shut-down of the manufacture of metallic magnesium. Do you know whether or not, at these plants at Moss Landing and at Permanente, there are other materials produced other than metallic magnesium?

A. Well, at Moss Landing they produce some dead burned magnesium oxide which is subsequently used in making basic refractories for the steel plants. Then at Permanente they are not producing metallic magnesium in ingot form at the present time, except on a small experimental scale. Their principal output is in the form of this ex-

(Testimony of L. H. Duschak.)

tremely finely-divided condensate, and is the result of shock-cooling with natural gas. That is a [389] product which has a unique value for incendiary bombs of various kinds.

Q. Is that manufactured elsewhere in this country, do you know?

A. No, nothing like that is produced anywhere else in this country.

Q. And that is one of the main products now being produced at the Permanente plant?

A. That is correct.

Q. And that is used in incendiary bombs in the present war? A. Yes.

Q. So far as you know, there is no other plant in the country that produces that, is that correct?

A. I know of no other such plant.

Q. You stated in your letter that you felt that there might be some interference with the marketability of the dried apricot. Just what did you mean by the marketability?

A. Well, I mean dried fruit that is covered with dust is not attractive to the buyer.

Q. In other words, during the drying season, if there was sufficient dust deposited on it, it would make it rather unpleasant to eat, is that right?

A. Yes.

Q. Do you know whether it did interfere in either 1943 or 1944 with the marketability of any apricots grown by Pista?

A. I have no knowledge on that subject.

Q. You don't know whether his apricots sold at the market price or not?

(Testimony of L. H. Duschak.)

A. You refer to the dried apricots?

Q. Yes. [390]

A. No, I don't.

Q. There has been offered here in evidence, Doctor, a report by Paul J. Anderson, which is Plaintiffs' Exhibit 8. I believe you have a copy of that.

A. Yes, sir, I have another copy.

Q. You have had an opportunity of studying that report, have you?

A. Yes, I have read it through.

Q. Now, will you state *that* the effect of the report is in substance? I mean just in a general way, because it has not been read, Mr. Naus.

Mr. Naus: What report are you speaking of now?

Mr. Moore: This Anderson report.

Mr. Naus: If the Court please, I object to that as calling for secondary evidence of a writing. It is printed; it is in the English language. The Court doesn't need any witness or anybody else to tell him what the report shows. Objected to as calling for secondary evidence.

Mr. Moore: Well, the objection is probably good. I will withdraw it.

Q. Now, you have read this report, have you?

A. Yes, sir.

Q. And it has to do with a series of experiments conducted by one Paul J. Anderson, relative to cement dusts in and about Hudson, New York, is that correct?

A. Yes.

(Testimony of L. H. Duschak.)

Q. And he outlines in there various analyses that he has made of that particular dust and various experiments that he conducted, and you are familiar with his report in that respect?

A. Yes, I am. [391]

Q. Now, if you will turn to that, I will ask you if in your examination, that represents a condition that existed in and about Permanente and the Pista ranch, and if it does not, in what particulars it differs, and why.

A. The circumstances investigated by Mr. Anderson are not disclosed as completely as information has been in regard to this Natividad plant and the Pista ranch; but within the limits of the information provided by Mr. Anderson, there are a number of points which indicate to me that Anderson's findings are not quite pertinent as regards the Pista ranch situation.

The dust came from a cement plant, not from a plant that was calcining dolomite. It mentions here, for example, on page 60: "During the entire blossoming season that year, a continuous south wind blew the dust from the mills onto a cherry orchard where our laboratory was established." There is a prevailing wind continuously in one direction, which is not the situation at Natividad.

And mention is made of a test here showing that the dust was falling at the rate of 2-1/2 tons per acre per month. That is fifteen times, I believe, the amount of dust falling that Mr. Twining tes-

(Testimony of L. H. Duschak.)

tified to. As I recall, his testimony was 2 tons per acre per year.

So that in respects like that, I find there are a number of ways in which the situation reflected in the Anderson report does not fit the situation we are discussing around Natividad. [392]

Q. I notice, Doctor, in this report I believe they found calcium oxide and magnesium oxide. I do not find in there any mention of calcium carbonate or magnesium carbonate. Can you explain the fact that in this report they only apparently found the oxide and did not find the carbonate?

A. I take it that you are referring to the analyses reported on, for example, pages 58 and 59.

Q. Yes.

A. Well, these analyses are set up in a conventional form, which do not indicate directly whether the calcium and magnesium compounds were present as oxide or carbonate; but in interpreting the analyses as a chemist would, I would say that the analyses showed that this dust contained both calcium oxide and calcium carbonate. There is a statement—I am not sure I can put my hand on it—yes, a statement here: “Nearly 8 percent of the dust is lime that is soluble in water.”

Q. Where are you reading from?

A. This is from the middle of page 60. It is an item marked “(3)”, in the third paragraph on page 60. That paragraph continues:

“The soluble lime is the cause of the extreme alkalinity of the dust and, as will be

(Testimony of L. H. Duschak.)

indicated below, is probably the source of injury to the fruit blossoms."

Then, in conjunction with that, we should note what the report states later on describing some laboratory experiments on the effect of this dust and the extracts from this dust on the growth of pollen. It states, for example, on page 65, in [393] substance, that if a portion of the cement dust is extracted with water and tested immediately with phenol phthalein, it will be found to show an alkaline reaction, that such a solution will interfere with the growth of pollen grains. This refers to the results of controlled laboratory tests in which there were control experiments with pollen run at the same time. And it states further:

"If, however, the drop is allowed to stand until neutralization occurs and the pollen then put in, it germinates almost as well as the checks."

What this describes is very much the same thing that I have described, namely, when the dust particles are recarbonated, they become as innocuous with respect to effect on pollinization as this solution which has been exposed to the air, and, as the author explains here, has absorbed carbon dioxide from the air and caused crystals of calcium carbonate to separate out from the solution. So that, as far as I can see, Mr. Anderson's findings and my independent conclusions are quite in harmony with regard to the behavior of these kinds of dusts.

(Testimony of L. H. Duschak.)

Q. And it is your opinion that this chemical process that he refers to here—that he refers to, that if the drop is allowed to stand until neutralization occurs—that that has occurred in the dust that was deposited on the Pista ranch?

A. Yes. That is substantially the same process as the recarbonization of the dust particles that I described as taking place [394] on contact with air containing moisture and carbon dioxide.

Mr. Moore: May we adjourn? I would like to adjourn, if I might, your Honor. I am not sure that I have any further questions of Doctor Duschak. I think I am practically through; I might want to ask a few more.

The Court: If you do, you can excuse him from the stand and call your next witness.

Mr. Moore: Shall we proceed now with the next witness?

The Court: Yes.

Mr. Moore: Mr. Packard. Pardon me; do you want to examine?

Mr. Naus: Yes. Have you finished with him?

Mr. Moore: Could I have that letter? I think I have no further questions, Mr. Naus.

Mr. Naus: Q. Doctor, in that Anderson study——

Mr. Moore: Oh, pardon me for interrupting. You did call his attention to a book here, Mr. Naus. I don't know whether you want to introduce it or just what the status of this article in this book is.

(Testimony of L. H. Duschak.)

I haven't examined the doctor with regard to this statement.

Q. Have you read this text?

A. I read the chapter that Mr. Naus referred to, yes.

Q. And that is Chapter X, commencing on page 201, is that correct?

A. Yes, I read just that short paragraph that refers to the effect of cement dust. [395]

Q. And that refers to cement dust injury, does it not? A. Yes.

Q. And refers also to the Anderson report that you have just referred to?

A. Yes, this paragraph on page 201 of this book by Heald, Manual of Plant Diseases, in the paragraph entitled, "Cement Dust Injury," gives what might be described as a brief summary of the paper by Mr. Anderson.

Q. It refers to that article of Anderson?

A. It refers to that article and recites briefly the substance of the Anderson article.

Q. And would your comment on that particular text be the same as your comment on the Anderson report?

A. Yes, I think so. We might note that this Anderson report was published in 1914; that this book was published in 1933, and that this Anderson report is the only one that is cited on this particular topic. And I infer then that the author did not find any other work than this one report of Anderson's. This is—and I say it in that way, be-

(Testimony of L. H. Duschak.)

cause a book which is called a Manual of Plant Diseases, in general contains a pretty complete bibliography and complete reference to any pertinent articles. So I conclude that the only article that the author found which seemed to touch this subject of cement dust injury was this one Anderson article nearly twenty-one years old.

Mr. Naus: Have you now finished?

Mr. Moore: I have now finished. [396]

Recross Examination

Mr. Naus: Q. Doctor, referring to that Anderson report about which Mr. Moore questioned you, that, you say, has reference to cement dust as distinguished from dolomite dust in our case?

A. Yes.

Q. Cement dust, insofar as the Anderson report relates to injury to a fruit orchard, relates to calcium oxide, doesn't it?

A. It discusses calcium oxide, yes.

Q. Well, doesn't it put its finger on calcium oxide as the cause of the injury to the fruit orchard?

A. Yes.

Q. And chemically it is exactly the same calcium oxide that would be developed through the calcining of dolomite ore, isn't it?

A. Yes, calcium oxide is calcium oxide wherever you find it.

Q. That is what I thought. Now, when you drew the distinction between the Anderson report as referring to cement dust and this case referring to

(Testimony of L. H. Duschak.)

dolomite dust, what distinction were you drawing?

A. When we are considering the effect of a dust from a given source on, let us say, an orchard, we have to know about a good many things. I mentioned that this report refers to this strong wind which drove the dust directly from the cement plant and which blew continuously during the blooming season. And it does not tell us, though, just what kind of a cement plant it was, whether it was wet process or dry process, and what the temperature in the stack was. In [397] the absence of that information, it is difficult to say whether the circumstances observed there were really comparable with those at Natividad.

Q. But——

A. If the stack—to show you exactly what I mean, if it was a dry process plant, as I suspect it was—a short kiln—the temperature in the stack was undoubtedly very much higher than the temperature in the Natividad stack and the process of calcination of limestone particles might actually go on in the stack instead of reversing itself as it does at Natividad. That, for example, would explain the presence of caustic lime in the cement dust which they caught in this orchard near Hudson and be a distinction from the situation as I picture it at the Pista orchard.

Q. There is this difference between the two cases also, is there not, Dotcor: that in the Anderson case with the dust falling within a radius of two miles, Anderson set up a laboratory within that area and

(Testimony of L. H. Duschak.)

captured and analyzed the dust as it fell upon vegetation and found it to be a calcium oxide?

A. He found that it contained in one case some 8 percent of soluble calcium oxide.

Q. In other words, when he captured the dust just as it had landed on the vegetation with his field laboratory there, he found that calcium oxide did not fully return to a carbonate by the time it landed on the vegetation, didn't he?

A. That is correct. [398]

Mr. Naus: That is all.

Mr. Moore: No further questions.

(Discussion regarding length of case and number of witnesses to be called.)

(Thereupon an adjournment was taken until Wednesday, September 20, 1944, at 10:00 a.m.)

Wednesday, September 20, 1944,
10:00 O'Clock A.M.

Mr. Moore: Call Mr. Lohse.

FRED LOHSE,

called as a witness by defendant; sworn.

The Clerk: Will you state your name?

A. Fred Lohse.

Direct Examination

Mr. Moore: Q. Mr. Lohse, what business are you engaged in at the present time?

(Testimony of Fred Lohse.)

A. I am a chemical engineer on the staff of Harry J. Kaiser, special service division.

Q. Will you explain what the special service division is?

A. The special division at the present time is composed of a number of engineers and others who are engaged in analyzing the various problems of production and marketing, and generally looking after the technical aspects of the activities of the company at this time.

Q. Does that include looking to the development of new products and new uses?

A. Yes, sir, it does, of the various enterprises that are managed by the company.

Q. How long have you been connected with the Henry J. Kaiser Company?

A. I joined the staff of Permanente Cement Company in 1939 as an industrial engineer; then in 1940 I joined the staff of the then newly-created Permanente Metals Company as raw materials engineer. I continued in that capacity for two [399] and a half years, until the fall of 1942, when I became assistant manager of the development and engineering division of the Henry J. Kaiser Company.

Q. In the construction of the Natividad, Moss Landing and Permanente plants, did you have any participation in that?

A. Yes, the research work that was necessary to adapt the raw material from the Natividad

(Testimony of Fred Lohse.)

quarry to a working process involving the use of sea water to make MgO was under my direction.

Q. And in the construction and building of those plants you conducted experiments of various kinds and research work in regard to that, did you?

A. That is right. And then shortly afterwards I became project engineer for the Moss Landing plant, and about one-third of the way through the construction of that plant I became construction superintendent also.

Q. Let me ask you, has the dolomite deposit in Natividad any peculiar qualities that make it particularly available for use? A. Yes.

Mr. Naus: I didn't catch that question.

(The reporter read the question.)

A. Yes, it does. We surveyed several deposits in the general vicinity, tested them in our Moss Landing pilot plant, which we had set up at Permanente, and arrived at the conclusion that the Natividad material was by far the best material for use at a sea water magnesia plant.

Q. Can you explain what particular qualities had that were [400] superior to the others?

A. First of all—

Mr. Naus: For that purpose?

Mr. Moore: For that purpose, surely.

A. First of all, the chemical analysis is excellent as compared with most dolomites found in California, and in this district in particular. Secondly, we became convinced, upon conducting our pilot plant work, that the rock has a peculiar physi-

(Testimony of Fred Lohse.)

cal characteristic that makes it especially adaptable to a simple effective treatment with sea water to form a very high grade MgO , or magnesium oxide.

Q. This particular process requires the use of sea water, does it? A. Yes, it does.

Q. Do you know whether or not there are any other plants of similar character in this country?

A. Yes, there is one that I am somewhat familiar with at Cape May, New Jersey, that uses lime instead of dolomite. There is one at South San Francisco that uses lime instead of dolomite. The plant of the California Chemical Company, at Newark, uses both lime and dolomite to react with bittern to form MgO .

Q. Is the process at Permanente distinctive from the type of installation used at these other plants?

A. The Permanente Metals manufacturing process, you mean?

Q. Yes.

A. Yes, it is. It is the only carbo-thermic plant in the United States. It requires a very high grade magnesium oxide as the feed from which to reduce the metal magnesium. [401]

Q. Are there any other carbo-thermic plants in the world, do you know?

A. Before the war Dr. Hansberg had installed in Konan, Korea, a plant that is probably running. There was a small plant in Rodhind, Austria, that is probably running. There is a small plant at Swansea, England, that we don't know whether it is running or not.

(Testimony of Fred Lohse.)

Q. Are the physical characteristics of this dolomite and the sea water at Moss Landing peculiarly adapted to this carbothermic process?

A. Yes; we spent considerable effort in developing a process at Moss Landing that would produce a particularly high grade MgO , which in turn would produce a particularly workable process at Permanente. The presence of impurities such as iron and silica and boron are particularly harmful in the carbo-thermic process.

Q. Now, in the research that was made prior to the installation of these plants, was any of this dolomite calcined?

A. Yes, we shipped approximately five tons of crushed dolomite from the Sterling quarry at Natividad,—the Sterling quarry, incidentally, is adjacent to the present Permanente quarry, and is the same deposit of rock,—to the University of California at Berkeley, where the 5 tons were calcined in a small rotary kiln about 18 inches in diameter and 30 feet long. The material was put in airtight drums and then shipped to the Permanente Metals laboratory, where we conducted the experimental work, using the dolomite and the sea water to produce [402] high grade MgO . And on the basis of that experimental work we designed the Moss Landing plant.

Q. Are you familiar with the designing of the Natividad plant?

A. Yes, I am generally familiar with the design of that plant.

(Testimony of Fred Lohse.)

Q. And in this calcining was there any data secured that you referred to?

A. Well, the first information that would be obtained in any calcining plant would be the tendency for a trial feed material to break down in the kiln. In the small rotary kiln at Berkeley, or any small rotary kiln, the material would not behave in the same manner as it does in a larger, longer rotary kiln, for obvious reasons: In the long kiln the material will be ground through attrition as it rolls through the kiln and the heat gradient in the kiln would be different.

The Court: Spell it.

A. G-r-a-d-i-e-n-t. It means the rate at which heat increases as you go through the kiln. So that we got data regarding the amount of fines in the product from the small kiln when we conducted the work at Berkeley as a part of the whole information that we tried to develop there.

Mr. Moore: Q. Now, do you know whether or not the original plans for the Natividad plant made any provision for a Cottrell?

A. Yes, the modern practice—modern engineering practice usually brings the attention of the engineers to the question of waste disposal, and in the original lay-outs that were made for the Natividad plant, as well as the Moss Landing plant, there was provision for a precipitator of some kind. [403]

Q. From your experimental work, research work, with reference to the Natividad plant, was it possible to design a precipitator or a Cottrell?

(Testimony of Fred Lohse.)

A. No; in the case of the Natividad plant, provision was left in the ground—in the lay-out, for a Cottrell, but the Cottrell was not installed originally, primarily for the reason that in feeding a rotary kiln with a dry material, it is impossible to tell ahead of time what the percentage of reduction, both due to attrition and due to the effect of the thermal gradient on the material, will be. The experiments at Berkeley indicated a very small breakdown of the particle size of the feed in the rotary; but in general practice it is known that you cannot take the results from a very small kiln and translate those into what you might get from a large kiln.

Q. Then do I understand you that, from these experiments that were had, it was impossible at that time to design the precipitator? Is that correct?

A. That is right. It would be extremely hazardous to attempt to design a Cottrell that would have the proper capacity to take out the fines on a dry kiln operation. It would be necessary, and I believe is usually the practice, to get operating data from your actual full scale operation before you can design—before you have the facts needed to design a precipitator that will take out the fines.

Q. In other words, if I understand you correctly, these precipitators are designed for each particular problem, is that [404] correct?

A. That is right.

Q. I mean, they are not standard, at all?

(Testimony of Fred Lohse.)

A. No, a precipitator must be designed for the particular job. If there happens to be technological information available from other purposes that are virtually duplicates of what you are doing, it is sometimes possible to borrow that information, but usually not.

Q. Now, do you know when the Natividad plant commenced operation?

A. I believe the Natividad plant began operating in about August of the year 1942. I am not certain of the exact date, because I was not directly connected with the operation of the plant.

Q. Were you connected with the actual study of the Cottrell at Natividad?

A. No, sir, I was not.

Q. You don't know when those studies commenced or when the installation took place?

A. No, I was busy with the other plant at that time.

Q. Now, in the position that you occupy, part of your duties are the study and the application that can be made of the products of this plant, is that correct?

A. Yes, it is.

Q. And you are familiar with that?

A. Yes, quite, in that since between January and August of this year I was assistant manager of the Firelands Division of Permanente Metals Corporation at Marion, Ohio. There we loaded many thousands of the so-called goop bombs which have been developed by the War Department. They are a 500-pound incendiary bomb made from the

(Testimony of Fred Lohse.)

[405] unique dust or finely-divided magnesium that is produced at the Permanente plant at Permanente; that is, it is crude magnesium metal.

The Court: Q. Crude magnesium metal?

A. Yes, sir.

Q. In a powdered form?

A. Yes. That is the primary production product of the magnesium plant. Then that metal, if— if that crude metal is to be made into metallic magnesium for application to castings, and so on, it is distilled under vacuum and made into the clean solid metal. However, for the use of the incendiary bomb, we had an extremely highly-divided material which is extremely active chemically and burns very fiercely, so that it was not necessary to take metallic magnesium and grind it mechanically and put it into a bomb which would then ignite and burn the metal. It is really a shortcut, but it is better than a shortcut, because of its special chemical property, since it is so finely-divided.

Mr. Moore: Q. Is that the only plant in this country that produced that particular product?

A. Yes, it is.

Q. And that is used in the war effort at the present time, is that correct?

A. Yes, all of the production of the Permanente plant, except a very small amount for certain experimental purposes, has been going into the production of what we call goop, which is used—which is the crude metal used in incendiary bombs and in other incendiary applications.

(Testimony of Fred Lohse.)

Q. You referred to metallic magnesium as distinguished from [406] the crude metal. Has metallic magnesium been manufactured at this plant?

A. Oh, yes, there have been many millions of pounds of metallic magnesium manufactured.

Mr. Naus: You mean in ingots, Mr. Moore?

Mr. Moore: In ingots.

A. Yes.

Q. What use has that been put to?

A. Well, that has gone entirely into the war effort, in making castings and incendiary materials of various kinds. We don't know—the company doesn't know where the metal has been used, largely because most of the uses have been under the strict supervision of the War Department.

Q. Now, is there a magnesium oxide from Moss Landing that is used in the war effort?

A. Yes, part of the production from the Moss Landing plant is used as a base material for making catalysts for the cracking of high octane gasoline; that is, the oxide is coated with a metal salt; the metal is reduced from the salt or the oxide and makes a special catalyst.

Then, in addition, Permanente has been manufacturing its own high temperature refractories at a small plant at Milpitas for use in the cement kilns. It has been very difficult during the war to get suitable refractories for those big rotary kilns, and it has been necessary for us to develop our own.

Also, we are working with the Anaconda Copper Company, who have large rotary kilns at Butte,

(Testimony of Fred Lohse.)

Montana, in the copper roasting work that is going on there, and we are producing for [407] them experimental lots of brick to be used by Anaconda Copper.

We are also making some special high temperature refractories that will find various uses in electric furnace practice, and we are making high temperature refractories for the Fontana Steel plant. That is a very definite part of the program for utilizing fully the product from Moss Landing in the West, here.

The Court: Q. To withstand heat?

A. Yes. Magnesium oxide is, in effect, burned magnesium metal, and that has a very high melting point and will withstand high temperatures. The brick made from magnesium oxide then is used as a lining for steel shells in cement kilns, copper roasting kilns, and electric furnaces used for smelting ores and metals.

Q. They use it in the clay process in these furnaces?

A. Yes, it is used as a brick lining for the furnace and then the materials are placed inside the furnace and smelted. I might add that in the past, magnesium has been——

Mr. Moore: Pardon me just a moment. We have not used the term “magnesia.” Is there another name for it?

A. Magnesium oxide. I should stick to that, because it is confusing, since magnesium is very much the same. Magnesium oxide in the past has been

(Testimony of Fred Lohse.)

available on the West Coast in brick form only from Eastern manufacturing plants. The usual practice has been to ship the calcined magnesite or magnesium oxide from Tukwila, Washington, to plants at Baltimore and Cleveland to make the brick, and then ship them clear back here to the Pacific [408] Coast. That has made the user of bricks pay a premium on the Pacific Coast whenever high temperature brick is used here. We fully intend to reduce the cost of high grade refractories on the Pacific Coast by using our own Western magnesium oxide and manufacturing the brick here.

There has been a great increase of technological applications for high temperature refractories as a result of the war. Many rotary kilns have been installed, many furnace processes have been installed, and it is the intention of the company to service all those processes through the manufacture of special high grade bricks.

Mr. Moore: Q. That particularly applies to the West Coast, here, I take it?

A. Yes; the war effort has increased the need for high grade refractories here and it will now pay and be desirable to all concerned to have their source of that material on the Coast.

Q. And when we talk about an industrial west, is that an important element in it?

A. We think it is.

Q. In your opinion?

A. We think it is.

Q. Coming back to the magnesium oxide, again, is any of that at present being shipped to the British?

(Testimony of Fred Lohse.)

A. Yes, the magnesium oxide—part of the magnesium oxide production from Moss Landing has been shipped directly to England, where it is used in the English carbo-thermic plant.

I might add that at Swansea, England, there is a sea water [409] magnesium oxide plant that uses dolomite and sea water, and that plant has been a great disappointment to the British. We think it is because of the fact that we have a freak dolomite at Natividad which gives a high grade magnesium oxide with sea water, it has been impossible for others to do the same job with dolomite.

Q. Now, in regard to another war use, are any of the by-products here used in making a cement that is spark-proof, or a covering used—

A. Yes; one of the uses for magnesium oxide is to fuse the material in an electric arc, and to make very effective high-tension insulation material; that has been used extensively in the new installations where it has been necessary to transmit power over long distances at very high voltages.

Q. I don't think you understood my question, but the answer can stand. I understood that some way or other it was used in giving a spark-proof covering or something of that sort in warships and battleships.

A. Well, yes, that is another application of magnesia. Magnesium oxide calcined not as completely as a magnesium oxide that is used in a magnesium plant will, when mixed with magnesium

(Testimony of Fred Lohse.)

chloride solution, set into a very hard cement that is called magnesium oxi-chloride cement. That cement has been used as a lightweight, fire-proof deck material on warships, on passenger liners, on tops of counters where there is a great deal of abrasion, and in many other uses where a special material was necessary. In the past, the use [410] of the magnesium oxi-chloride cement has been rather limited by the fact that it has been very difficult to get a high grade and white magnesium oxide. The war effort has resulted in the building of plants in the United States which can now produce magnesium oxide at prices far below the milk of magnesia type plant that existed before the war, where it was necessary to operate a small plant at a high cost and get a high price for the material. So that we anticipate that after the war great quantities of magnesia will be used as an oxi-chloride cement. We know the market exists. The only thing necessary is to get the price down where it is now—or has been necessary to get the price down where it is now, and to make the material available.

Q. You mentioned high octane gas. Are any of the by-products of this plant used in the manufacture of high octane gas?

Mr. Naus: Hasn't he already mentioned it as a catalyst for that?

Mr. Moore: I think he has. All right, I will pass that.

Q. Has it any use in the manufacture of synthetic rubber?

(Testimony of Fred Lohse.)

A. Yes; another grade of magnesia that can readily be produced—in fact, is produced at the Moss Landing plant part of the time, by merely changing the temperature at which the kiln is operated, is called extra light magnesia. That material is used as a filler in the compounding of synthetic rubber. Great quantities of that are being used now by the manufacturers of [411] rubber articles from synthetic rubber.

Q. Have you mentioned periclase used in insulating materials—its use in that connection?

A. No, I have not. Periclase is another product that is made at Moss Landing by adding a slight amount of silica to the kiln feed. The silica forms a magnesium silicate, which tends to fuse slightly or clinker and shrink to a dense translucent product which is used in high refractory bricks, is used in insulating materials and is finding a great many uses now as an abrasive.

Q. Just what do you mean by an abrasive?

A. An abrasive is——

Mr. Naus: Everybody knows what an abrasive is.

Mr. Moore: It has many definitions.

A. An abrasive is any material that is hard and can be used as a grinding medium, such as in grinding wheels, and sand blasting, and so on.

Q. Is there any particular present work other than shipping this to the British Government—any present work going on there in connection with some work desired by the British Government?

(Testimony of Fred Lohse.)

A. Yes. At the present time samples of goop are on their way to England, and considerable work has been done developing a new incendiary product for the British War Department. They have taken the experience that the American War Department has gained through the use of the goop bomb or incendiary bomb and are now applying it in an entirely different manner for low-level bombing and strafing purposes with surprisingly encouraging [412] results. And at this time here is a considerable shipment of goop on the way to England, and three of our engineers also are about to leave to put the material through a complete testing in England for use as a combat material.

Q. Has the product any use in welding?

A. Yes, magnesium oxide is used as a coking for welding rods where it acts as a flux and oxide inhibitor.

Q. Do you know whether it has any use or not in the manufacture of rayon?

A. Yes. One of the extra light grades of magnesia is used as a filler for the spinning of rayon.

Mr. Moore: I don't know whether I have covered all the uses.

Mr. Naus: I don't think anyone could; I think it is going to revolutionize commerce in metal. I don't think Mr. Lohse or anyone can dream of the possibilities of it. He couldn't state them all. He can only state all those that he has thought of so far. I think there will be many uses not dreamed of right now. I think he will agree with me.

(Testimony of Fred Lohse.)

The Witness: Of course, we are discussing primarily the uses of magnesium oxide rather than metal.

Mr. Moore: I will accept Mr. Naus' statement.

Mr. Naus: If you would like to have me make it broader, I will, but I don't know how.

Mr. Moore: That is all right.

Q. Mr. Lohse, are there any other plants on the West Coast [413] that can produce these materials?

A. Yes, there are two others that I know of. One is a small plant at South San Francisco that has been producing pharmaceutical grade magnesia—or magnesium oxide, I should say. The other is the California Chemical Company of Newark, California, which produces various grades of magnesium oxide. Incidentally, part of the production from the Moss Landing plant is sold to the California Chemical Company to supply their demand, which is greater than their plant can supply.

Q. Do you know what the cost of production and sale of the product at Permanente is as compared with other magnesium plants, not only in California, but throughout the country?

A. Of the metal, you mean?

Q. Yes, of the metal and the various by-products.

A. Well, we know that our production cost of the oxide at Moss Landing is lower than anything accomplished on the West Coast, and probably in the United States. The production cost of magnesium metal at Permanente is now down to where

(Testimony of Fred Lohse.)

the plant is operating in the black rather than in the red.

Q. How does that compare with the cost of it at other plants in the country, do you know?

A. I believe that it is probably competitive with most other plants in the country; especially we know that it is competitive with Western plants. It might not be competitive now with one or two of the Eastern plants that have been in operation for a long time. [414]

Q. And there are various efforts being made, I take it, to constantly cut the cost of production, is that correct?

A. There is every possible effort being made to do that.

Q. Are you familiar with the cost of this installation—the Permanente installation?

A. Well, the Permanente Metals plant originally cost about \$21,000,000.

Q. That is the one located where?

A. It is at Permanente; that is a metal reduction plant.

Q. What did the one for Moss Landing cost?

A. That plant cost \$2,200,000.

Q. What did the Natividad plant cost?

A. That one cost just \$2,000,000.

Q. In other words, in round figures, approximately \$25,000,000 for the three plants?

A. Yes.

Q. Can you tell how many people are employed directly in all these three plants?

(Testimony of Fred Lohse.)

A. Yes, I have a note on that as of September 7th. At Natividad there are 69 on the payroll. At Moss Landing there are 79. At Permanente Metals at Permanente there are 795. And at the brick plant at Milpitas there are 20. That gives a total of 963.

Q. Those are directly employed, is that correct?

A. Those are employed in the operation of those four plants.

Q. Turning to the quality of the material produced in this process, how does it compare with the purity of the material produced elsewhere?

A. You mean the magnesium oxide or the [415] magnesium metal?

Q. Magnesium metal and magnesium oxide.

A. Well, both of them—both the magnesium oxide and the metal from the magnesium oxide are extraordinarily pure.

Q. Do you know of any other as pure on the Pacific Coast?

A. Yes, the products made—the product made at South San Francisco is as pure; but it is a very small plant; it makes pharmaceuticals.

Q. It makes no metal at all, does it?

A. No. In fact, it makes only milk of magnesia for pharmaceutical purposes. Then the plant at Newark produces some material that is as pure, but only a small part of their total production is as high grade magnesia as the Moss Landing product.

Q. Does it produce any metallic magnesium?

A. No, it does not.

(Testimony of Fred Lohse.)

Q. This is the only plant of those which are located here that produces the metallic magnesium, is that correct? A. That is right.

Mr. Moore: That is all. [416]

Cross-Examination

Mr. Naus: Q. By the way, Mr. Lohse, is the Natividad calcining plant in actual operation at the moment, or is it shut down?

A. I don't know, sir.

Q. You don't know whether it has been in operation or shut down the last few days, do you?

A. No, sir, I do not.

Q. I see. Thank you. Now, as I understand, any element of uniqueness in the situation—element or elements of uniqueness in the situation at Natividad arise, No. 1, from the quality of the dolomite ore? A. That is right.

Q. And, No. 2, from the end product down at Permanente being such minutely divided particles of oxide, is that it, or dust—metallic dust?

A. Yes. Those are two unique situations.

Q. I am trying to find all the elements of uniqueness of the operation down at Natividad, Moss Landing, and Permanente that set them apart from other operations that might be called similar or competitive operations. Have I named all the items of uniqueness?

A. Those are the two main ones, I would say.

Q. Is there any minor element of uniqueness?

(Testimony of Fred Lohse.)

A. Another one is the fact that we are able to produce on a large scale magnesium oxide at a low cost which is now needed for catalysts and other things. We are supplementing the supply on the Pacific Coast that is met by—— [417]

Q. That simply relates to the dollar or commercial position of the plants as distinguished from chemistry or metallurgy, I take it?

A. Well, primarily, yes, except that there wouldn't be any other place to get the material that is needed but from Moss Landing.

Q. But that element could be duplicated at some time in peacetime elsewhere, couldn't it—that size of plant or low cost?

A. I don't—I don't know where it might be done.

Q. I see. I will pass that, then, for the moment. Now, as to the uniqueness of the ore—we have in evidence here—it has been marked by the Court as Plaintiffs' Exhibit 2—an airplane view, one of the common airplane views taken around the country, that shows the plant, quarries, and the like. Can you identify that? We are in agreement that that is a true airplane view. A. That is right.

Q. There are two quarries depicted on it. One says "Bethlehem Quarry," and the other one says "Quarry Area." Do those two quarry areas depict the whole of the quarry areas connected with the operation at Natividad?

A. Yes, they do. As far as I know, they do.

(Testimony of Fred Lohse.)

Q. You spoke in your direct testimony about the Sterling quarry. Is that depicted on that photograph?

A. Well, the Sterling quarry is another name for the Bethlehem quarry, because it is on the Sterling ranch. We always referred to it that way.

Q. Now, what is the extent, so far as you know or can say, of [418] that deposit of dolomite?

A. Well, we have drilled and blocked out 15 million tons of ore. There is probably a good deal more there.

Q. Well, you have blocked out that much? Will you answer Yes or No so the reporter could catch it. You just nodded.

A. Yes, sir.

Q. The rate of consumption of ore in tons is running about what per year?

A. I couldn't answer that offhand, sir. I can't answer that offhand, because——

Q. Somewhere from 100,000 to 150,000 tons a year, would you say?

A. Let me see. I believe the production of the plant is something like 150 tons of calcined material a day.

Q. You would multiply that by 2—1.8—to get the ore?

A. You would multiply it by 2 to get the ore. That is 300 tons a day.

Q. Then that will quickly tell us. That would be somewhere around 120,000 tons a year at the present rate; say roughly 10,000 tons a month?

A. Yes, I would say that is a good round figure.

(Testimony of Fred Lohse.)

Q. When you say "blocked out ore," you mean positive ore in sight?

A. Yes, sir, that has been drilled.

Q. And when you get beyond that 15 million tons of positive ore in sight, tell me what probable ore you estimate beyond that.

A. I wouldn't want to do that. It might be as much again or several times as much again. It is very hard to say. [419]

Q. I think that is correct. Would you indicate as best you can the boundary limits of that deposit on the surface of the ground.

A. As I remember the general layout, it would run substantially back from the present westerly edge of the quarry where the crusher plant is located to the crest of the mountain and over an area perhaps 1,500 or 2000 feet long.

Q. Is it all located on the ground at present controlled by lease or otherwise by Permanente Metals Corporation there?

A. All of the proved ore is.

Q. All of the which?

A. All of the proved ore.

Q. All of the blocked-out ore? A. Yes.

Q. Now, laying aside for the moment the question of cost and the like, laying aside the question of dollars, and speaking directly in terms of ore, chemistry, metallurgy, and the like, upon the quarrying out of that ore at Natividad, it could be hauled miles away and calcined equally well, couldn't it?

A. Yes.

(Testimony of Fred Lohse.)

Q. In other words, all of this enormous \$25,000,-000 operation that Mr. Moore has been pointing your attention to could carry on equally well without the presence of the calcining plant at Natividad?

Mr. Moore: Do you mean from the chemical standpoint or from the dollars-and-cents standpoint, Mr. Naus?

Mr. Naus: I will take it both ways.

Q. From a chemical and manufacturing standpoint, and laying [420] aside the question of dollars at the moment, Mr. Lohse, the ore when quarried at Natividad could be transported miles—hundreds of miles or a thousand miles away—and calcined equally well, couldn't it? A. Yes, sir.

Q. So that the presence of the calcining plant at Natividad is a matter of cost or dollars, is it, merely, or convenience, or what, in this whole operation?

A. The presence of the calcining plant at Natividad has several reasons. May I review those from the beginning?

Q. You have a right to.

A. To begin with, it was contemplated when the plant was first—the plant site was first—or the rock was first drilled for testing, that another magnesium plant, the so-called Manteca silica thermic plant, would be located immediately down the hill from the present quarry to supply silica thermic magnesium. That plant was eventually put at Manteca because of the gas supply at Manteca and because of the War Department insisting on spread-

(Testimony of Fred Lohse.)

ing the plants out. So that by the time the War Department had decided that the plant that became the Manteca plant should not be located near this quarry, the orders had been placed and the ground was being prepared to put this burning plant at its present site. Also, the presence of the plant there was a logical spot for supplying the Moss Landing magnesia plant.

Q. Why?

A. Well, you will have to get back to dollars and cents on that question. [421]

Q. All right; give me any reason.

A. It is better to haul half the weight of material from Natividad to Moss Landing than otherwise would be necessary.

Q. Have you now told the entire reason for the superiority of Natividad over Moss Landing for the purpose of a calcining plant?

A. Those are the principal ones that I can recall. There might be others.

Q. When you say "those," so far as my listening, attentive as I can make it, has followed you, you have given only one; that is to say, the cost of hauling the materials. Have you given any other to give the superiority of Natividad over Moss Landing for the calcining plant?

A. I don't recall now whether we are still considering the thing only from a purely technological basis or from the basis of the reasons that were given for selecting this plant.

(Testimony of Fred Lohse.)

Q. When you get into the question of haul, you necessarily are not getting into chemistry; you are getting into dollars. Now, have you given anything else as a reason of the superiority of the Moss Landing over Natividad for the calcining plant of this particular dolomite?

A. Do you mean the superiority of Natividad over Moss Landing for the location?

Q. Yes, I should have put it that way. That is my error. Is there any other?

A. Well, I might say that if the plant had been placed at Moss Landing there would certainly be no technological advantage. [422]

Q. Or disadvantage?

A. Or disadvantage.

Q. Correct. So it reduces, then, does it not, to the mere matter of its costing 1.8 times as much to haul the crude ore, the quarried ore, as it would to haul the calcined dolomite?

A. That perhaps is substantially the case. However, if there are any questions of disposal of waste or other technological problems that arise, they would certainly be as severe at Moss Landing as anywhere else.

Q. Why? Moss Landing is near the marsh and water for the dust to fall into—your dust disposal—instead of falling into orchards.

A. I believe there is considerable agricultural activity around Moss Landing.

Q. Well, down at Moss Landing, isn't there an area there where you could have a calcining plant

(Testimony of Fred Lohse.)

out near the salt water and march land and waste land and the like, or do you know?

A. There is. There is perhaps more area around there. However, we had to consider the problem of our stack gases and dusts at Moss Landing as well as at Natividad.

Q. Now, if the dolomite were calcined at Moss Landing in a plant there instead of at Natividad, would not the calcined dolomite be delivered in your plant at Moss Landing in better shape than it would be if transported 18 miles through the air in open truck from Natividad?

A. No, it would not, because the material is now transported in a specially built sealed truck. There is no detectable deterioration of any kind in [423] the handling.

Q. How long have your materials been hauled from Natividad in a specially sealed truck? Over what period of time?

A. As far as I know, right from the beginning.

Q. Have they ever been hauled in an open truck—that is, open-topped?

A. I am quite certain that they have never been hauled to Moss Landing in an open truck.

Q. I mean from Natividad.

A. That is right.

Q. Have they ever been hauled in an open truck that has a fabric or textile covering over the top merely instead of sealing in the strict sense?

A. I wouldn't know that, sir.

(Testimony of Fred Lohse.)

Q. Well, then, since it would appear that the superiority of Natividad for the location of the calcining plant gets down to a need of hauling only one ton of calcined dolomite as against $1\frac{4}{5}$ tons of crude dolomite, what does that cost amount to in dollars?

Mr. Moore: That isn't the testimony at all.

Mr. Naus: Well——

Mr. Moore: Pardon me, Mr. Naus.

Mr. Naus: Make an objection, please, because the witness agreed with me. He nodded "Yes." And I don't think you follow the witness, if you haven't followed him to that extent.

The Court: Q. So I may follow you, is it a fair statement to limit it to twice the cost?

A. I beg your pardon?

Q. Is it a fair statement to say that in this hauling, and [424] limiting it to the hauling process, is it double the cost to take it to Moss Landing?

A. Yes, because we have to haul twice the weight to get the same amount of solid.

The Court: All right.

Mr. Naus: Q. How many employees in the total payroll you speak of are engaged in the calcining plant, in that operation at Natividad as distinguished from the quarry operation and the hauling operation?

A. All I have is the total figure of 69 employees on the Natividad payroll. I don't know what the distribution is.

Q. Wouldn't those employees, generally speak-

(Testimony of Fred Lohse.)

ing, be divided between employees at the quarry, employees in the operation of the calcining plant, and employees engaged in hauling dolomite ore?

A. Yes, they would.

Q. I am trying to find as best you can estimate the number connected with the calcining plant itself as distinguished from the other operations there.

A. I haven't followed the details there; I wouldn't want to make a guess. We could get the information exactly, but I wouldn't want to make a guess on it. It might be a third or it might be more.

Q. By the way, what is the height of the stacks of the kilns, the stacks from which the dust escapes at the top of that calcining plant?

A. At Natividad?

Q. Yes. A. I don't know that.

Q. You spoke of participating in the design of the plant. In [425] the design of such a plant what determines the height of the stack?

A. First of all, may I say that I participated in the design of the Moss Landing plant; I was project engineer on that.

Q. Did you participate in the design of the Natividad calcining plant? A. No, sir.

Mr. Naus: That is all.

Redirect Examination

Mr. Moore: Q. Mr. Lohse, near the Moss Landing plant you have farms and agricultural pursuits in its vicinity, do you?

(Testimony of Fred Lohse.)

A. Yes. The entire area east of the Moss Landing plant is devoted to farming, cattle grazing, and to the east and south there is artichokes.

Q. Did you have a dust problem there, too?

A. At Moss Landing?

Q. Yes.

A. Well, at Moss Landing we were able to design and install immediately a Cottrell precipitator that has done an excellent job.

Q. There is a Cottrell precipitator there at the Moss Landing plant and that was installed at the time the plant was built? A. That is right.

Q. It was possible to design that prior to the construction of the plant?

A. Well, yes, in that case it was quite possible to design a Cottrell plant that would do a good job for the reason that we knew exactly what the particle size of the [426] material going to the kiln would be, and it was in the form of a wet slurry or mud.

Q. Wet what?

A. Wet slurry or mud. Then as this material proceeds through the kiln it is first dried, then works its way on down the kiln, where eventually it is calcined—goes through the chemical reaction of calcining and is discharged from the kiln. With that type of feed, the engineering data on the amount of feed, the rate of rotation of the kiln, and the amount of air going through the kiln would give you exactly the amount of solid that you would expect in your flue gas. Then knowing that,

(Testimony of Fred Lohse.)

it was a simple matter to design a Cottrell that would be effective and would do a good job—which was the case there.

Q. In other words, you had the agricultural pursuits in the neighborhood of Moss Landing the same as at Natividad, and you had placed a Cottrell there and you had the same problems to meet, is that correct?

A. Well, we anticipated the same problems at both plants. At Moss Landing we were able to meet the problem, because we had enough design data to go ahead with the Cottrell precipitator.

The Court: Q. Were they both built at approximately the same time?

A. Yes, they were both—building was started on both plants simultaneously. We knew that the prevailing wind was east and from the southwest, so that we felt that we could take precautions there to keep the dust from [427] blanketing pastures and areas in that area.

Mr. Moore: Q. In other words, if the calcining plant had been built at Moss Landing exactly the same problems would have existed as existed at Natividad; is that correct?

A. That is correct, yes.

Q. In other words, the only result of building the plant at Moss Landing would be the cost of hauling would be double, but the same problems would be presented in both places, is that correct?

A. The same technological problems would exist, yes.

(Testimony of Fred Lohse.)

Q. You made a statement I wasn't aware of, but at any rate, it may cause some other testimony. You say that from the beginning they used specially constructed sealed trucks. And that has come within your personal observation and knowledge, I take it?

A. That is right.

Q. Having been at Moss Landing?

A. That is right.

Q. You have seen the trucks and know them?

A. Yes.

Q. And to the best of your knowledge and information, all the product that has been hauled from Natividad to Moss Landing has been hauled in these sealed trucks?

A. That is right. It is very necessary, especially during the rainy season, it wouldn't do to get it wet.

Q. In talking about building, do you know whether the materials could be gotten at this time to build another calcining plant?

A. If it became necessary to build a calcining plant at Moss [428] Landing now, you mean?

Q. Yes.

A. I am rather doubtful that it is possible to get the materials to build such a plant.

Q. They are subject to priorities, are they?

A. Yes.

The Court: Is that all from this witness?

Mr. Moore: That is all.

Mr. Naus: You have finished with him?

Mr. Moore: Yes.

(Testimony of Fred Lohse.)

Recross Examination

Mr. Naus: Q. Is there anything other than pasture land within a radius of a couple of miles of the plant at Moss Landing?

A. Not that I know of, sir. I think that the artichoke fields are at least that far away—a mile and a half or two.

Q. So that any crops or any culture down there are at least more than two miles away from the Moss Landing plant, isn't that correct?

A. That is, I think, correct. I am not certain; I believe that is right.

Q. What is the present stack loss at the Moss Landing plant?

A. The stack loss at the Moss Landing plant has been consistently about two percent.

Q. What is that in tons per 24 hours?

A. That is only about a ton, I believe.

Q. Yes. A. That is purely a guess now.

Q. Is it a guess or a rough estimate?

A. I would say it is [429] a rough estimate. I am not sure of it.

Q. What is the present stack loss at Natividad per 24 hours?

A. I don't know. I haven't followed the operation there at all.

Q. Is there any reason why the plant at Natividad could not reduce the stack loss to no more than a ton per 24 hours equally well with the performance at Moss Landing?

(Testimony of Fred Lohse.)

A. Well, there probably is—in fact, I am sure there is this reason for it: It was possible to anticipate, from the character of the feed to the Moss Landing kilns, exactly what the total dust volume would be at Moss Landing and therefore design a Cottrell to fit the case. At Navidad it was necessary to get operating data and then proceed from that to the design of a plant.

I might add that the Western Precipitation Company had never designed a Cottrell system for a dolomite calcining operation, and there were a number of uncertainties in their minds regarding the design of such a precipitator, and it was necessary to get data from the actual operations before they proceeded.

Q. Do you mean to suggest that the precipitator at Navidad is still in an experimental stage?

A. No, I do not. I wouldn't say that it is in the experimental stage, but it was a precipitator designed, as in all other cases, for a certain job. [430]

Q. Could the performance in time be brought down to not more than one or two tons per day of stack loss, would you say, at Navidad?

A. That is probably consistent with practice in many cases, and it is certainly to be expected that that operation can be improved.

Q. When you say consistent with the practice in many cases, what specifically do you have in mind as the cases?

A. Well, for one thing, the Permanente—the precipitator at the Permanente cement plant, the

(Testimony of Fred Lohse.)

precipitator at the Moss Landing plant, and the precipitator that I know of at the Getchell mine in Nevada where arsenate dust is precipitated quite fully from the atmosphere. And of course in all those cases the precipitators were designed on the basis of long years of experience with that type of dust, and each dust is a separate problem. Each operation is a separate problem, and the precipitator has to be designed for that job.

Q. As you sit there now do you know of any reason why the stack loss at Natividad could not be cut down to no more than one ton per 24 hours?

A. Well, frankly, sir, I don't know of any reason or any method by which it could be done effectively. I think that will have to be worked out.

Q. You think it can be worked out, though, don't you?

A. There is every reason to expect that it can be worked out, yes. It has been in other cases where the trend has been toward better and better precipitation consistently. [431]

Q. Do you know of any reason why it can't be worked out so that the stack loss at Natividad from the two stacks in the aggregate should not exceed a half ton of stack loss per 24 hours?

A. Well, of course, that is getting down to—I have a ton in mind.

Q. It is getting down to this case.

A. I had a ton in mind as an example of what might be done.

Q. Yes.

(Testimony of Fred Lohse.)

A. Judging from the general case in other operations, I suppose that if one were to build enough Cottrell precipitators and put them all in series, eventually you could precipitate everything out of every feed that goes to a Cottrell system. But it would be like the steamboat with an eight-foot whistle—blow the whistle and the boat stops; it would cost you more to operate the precipitator than to run the plant. You would get to that point.

(Recess.)

Mr. Naus: Q. Then, as I understand it, Mr. Lohse, by some increase in the capacity of the precipitating system the stack loss can be reduced?

A. I would say by some increase in the effectiveness of it. I am not too well versed on the details of the design of an electrical precipitator. It is questionable whether it could be increased in size. The best approach would be to improve the performance of it, I would guess. I am not too well——

Q. Do you—pardon me. I thought you had finished. [432]

Mr. Moore: What did you say?

The Witness: I am not too well versed on the technological aspects of electrostatic precipitation. That is a special field.

Mr. Naus: Q. Then, as distinguished from an increase in size of the present precipitator, I understand your testimony to be that the multiplication in series, say, having two units instead of the present one, would reduce the stack loss?

(Testimony of Fred Lohse.)

A. Yes, that is a logical conclusion that would apply in a case of this kind.

Q. And the multiplication would not have to be any more than from one to two, would it, to reduce stack loss?

Mr. Moore: To reduce stack loss to what?

Mr. Naus: I do not know to what. Perhaps zero. Perhaps we will reach that point. Let us find out.

A. Well, sir, I do not know that I could make a quantitative statement on that. I do not know enough about the technological aspects of electrostatic precipitation. The manufacturer's engineers are qualified to answer that. I would not want to guess how much of an addition physically you would have to add to any Cottrell system to increase its capacity or how you go about increasing its efficiency.

Mr. Naus: That is all.

Further Redirect Examination

Mr. Moore: Q. Mr. Lohse, Mr. Naus asked you in regard [433] to certain reductions—one ton per day, a half ton. Are you familiar with that process so that you could give any answers on those subjects?

A. Well, I believe I said that it was merely a guess, that you might reduce it to some such figure consistent with ordinary, or, rather, common practice, or good practice. Anybody could make such a guess. Any engineer might make such a guess. But

(Testimony of Fred Lohse.)

that is only based on logic, so far as I am concerned.

Q. You have never constructed a Cottrell?

A. No, sir.

Q. You are not familiar with the technicality of it, are you?

A. No, sir. We simply asked the manufacturer of the Cottrell system to give us what we want based on the data we can furnish, and we were at his mercy.

Q. Do you know whether those measured usually in the volume of dust, that is, the reduction percentage, or whether they figure it in tonnage, or how they figure it? Have you any idea on that?

A. Both are involved, of course. A calculation of the total amount of work the thing has to do is based on the tonnage data that you give the manufacturer of the Cottrell system, and then he will design the Cottrell system so that it will take out a certain percentage of the dust.

Q. Take out a certain percentage?

A. Yes. There again we get back to the question in engineering practice of what is involved in, say, taking a hundred percent of the dust out of the flue gas. A certain installation might take 99.5 [434] percent of the dust out of the flue gas, and then you might have to duplicate the installation to get the other .5 of 1 percent, and that is a problem that is a highly specialized one and is left by us to the manufacturer of the equipment.

Mr. Moore: I think that is all.

Mr. Naus: If the Court please, at this time I would like permission, which is given by Mr. Moore so far as he is able to give it, aside from your Honor, to call Mr. Anderson, a witness, out of order, in rebuttal. He is a neighboring farmer, and he has informed me that he has to get home as early as he can to milk about twenty-two cows, I think he told me. He seemed a little disturbed about it.

LEO ANDERSON

called for the plaintiffs in rebuttal; sworn.

The Clerk: Will you state your name.

A. Leo Anderson.

Direct Examination

Mr. Naus: Q. It is twenty-two cows you want to rush back and milk, isn't it, Mr. Anderson?

A. Yes, sir.

Q. I think that is the number you gave me.

The Court: Q. Do you milk them yourself?

A. Yes, sir.

The Court: That is what is keeping you young.

Mr. Naus: He told me he had not been in San Francisco for twenty years, and he complains about the subpoenas this Court issues, and I think his complaint is sound. The subpoena [435] stated he should come to the Federal Building, and after he got to San Francisco after twenty years he found there were three Federal buildings.

The Court: Q. You have not been here in twenty years?

(Testimony of Leo Anderson.)

A. No, sir.

Q. Have you attempted to make arrangements with somebody else to take care of things?

A. I couldn't do it.

The Court: I know it is hard.

Mr. Naus: Q. Mr. Anderson, I show you a photograph taken from an airplane. It is an air view. We call it Plaintiffs' Exhibit 2 here. It shows your ranch there from the air. Over here, where it says "Plant Area," there is where those two big stacks are. Up here on the hill is the quarry. Down here there is a place enclosed called "Anderson Orchard." You are the Anderson who owns that orchard, aren't you?

A. Yes, sir.

Q. How long have you owned that?

A. Since 1917.

Q. You have some of it set out to apricots, haven't you?

A. Yes, sir.

Q. How many acres?

A. 17 years.

Q. Of those 17 acres there were 10 acres that came into bearing at an earlier time, and 7 acres at a later time, weren't there?

A. Yes, sir.

Mr. Moore: What do you mean? What year?

Mr. Naus: I am going to reach that. I am just dividing the 17. [436]

Q. The 7 acres that came into bearing later, when did they come into bearing? What year?

A. 1942 they started to bear commercially.

Q. How long have the other 10 acres been in commercial bearing?

A. Since about '30.

Q. 1930?

A. Yes, sir.

(Testimony of Leo Anderson.)

Q. Before the year 1943 what was the smallest crop you ever took off of this 10-acre piece over a period of 20 years? A. 37 tons.

Q. That is over a period of 20 years?

A. Yes, sir.

Q. In the year 1943 what was the total crop in tons that you took off the whole 17 acres?

A. 10 tons.

Q. Can you tell me how that 10 tons was divided between the 10 acres and the 7 acres, roughly? A. No, I could not.

Q. Just all in one heap, is that it?

A. Yes, sir.

Q. But, as I understand it, 37 tons was the smallest amount you had ever taken off the original 10 acres in a period of 20 years?

A. Yes, sir.

Q. You live right on that ranch, don't you?

A. Yes, sir.

Q. You have your home right there, your house and other buildings; your family is **right** there?

A. Yes, sir.

Q. Right there in your front yard or at your house you can see the Permanente plant in operation, can you? A. Yes, sir.

Q. You can see the quarry on the hill; it is right fairly close to you? A. Yes, sir. [437]

Q. Can you see the dust coming up from the quarry and from the stacks? A. Yes, sir.

Mr. Moore: Pardon me. Which do you mean, Mr. Naus?

(Testimony of Leo Anderson.)

Mr. Naus: What?

Mr. Moore: Dust from the quarry and dust from the stacks?

Mr. Naus: I am asking whether as he sits there at his home or is out in his yard he is close enough so that he can visually see dust rising up there at the quarry. I want to know if he is near enough to see it.

Mr. Moore: I do not like to interrupt, but there is no evidence here that I know of that any dust comes from the quarry. It is all from the stacks.

The Court: He says it comes from the quarry.

Mr. Naus: I will put it this way:

Q. Mr. Anderson, as you are there at your home in daylight and you look up at the quarry, can you or not see dust rising at the quarry?

A. Yes, sir.

Q. A big cloud of it or a small one?

A. Well, when they are blasting, it is a big cloud. Just an ordinary operation—unless when they are dumping these trucks—I don't know whether they have changed their system or not—they would cover the whole country with dust as they dumped their trucks.

Q. Can you see a big white cloud of something or other coming out of the top of the stacks from your home?

A. Yes, sir.

Q. After these clouds, whatever they are, rise up in the air [438] from the quarry and from the top of the stacks, can you see them traveling

(Testimony of Leo Anderson.)

through the air according to the prevailing direction of the wind at any time? A. Yes, sir.

Q. Observing them as you do there at your home, in which direction is the prevailing wind? To make it more simple, is it toward the Pista orchard, or is it towards some other direction?

A. It is usually towards the Pista orchard. During the night when there is no wind it is just——

Q. Hanging? A. Settles.

Q. In the afternoon when the winds are up, then is it or not the fact that the prevailing wind takes that dust directly over in the direction of the Pista orchard? A. Yes, sir.

Mr. Moore: I do not like to object, your Honor, but it seems to me these questions are highly leading.

The Court: Without question they are.

Mr. Naus: I will put it this way:

Q. Is there any other direction in which the wind carries the dust more than in the direction of the Pista orchard?

A. Sometimes it carries it over the hill, and a draft through the next canyon brings it back down again.

Q. Brings it back down again to where?

A. Down towards Mr. Pista's orchard, down towards the Temente ranch and Mr. Pista.

Q. As this dust travels through the air, has or hasn't any of it traveled over toward or upon your orchard? A. Yes, sir. [439]

Q. I understand from other evidence in the case, Mr. Anderson, that the 1942 crop of apricots

(Testimony of Leo Anderson.)

was picked before the plant started to operate, is that correct? A. Yes, it was.

Mr. Moore: I do not like to object, but I think he ought to stop asking leading questions and ask the witness a straight question.

Mr. Naus: I do not think there is any controversy about that.

Mr. Moore: I would like to have him testify and not you, Mr. Naus.

The Court: Just for the moment, let us read that last question.

(Question read.)

Mr. Naus: That was purely preliminary. There is no controversy in this case about the 1942 crop.

The Court: Is there?

Mr. Naus: No.

Mr. Moore: I wouldn't say there is any, but I would like to have this witness' testimony, Mr. Naus notwithstanding. I would like to hear what he has to say.

The Court: Let us proceed.

Mr. Naus: Q. State whether or not any dust traveled from this plant, whether you observed any of this dust traveling through the year 1943 over to your orchard. A. Yes, sir.

Q. Now, Mr. Anderson, what do you believe to be the reason for [440] your 17 acres producing no more than 10 tons in the year 1943?

A. I believe a covering of dust on the blossoms killed, you know, the blossom so it would not form fruit.

(Testimony of Leo Anderson.)

Q. In the year 1944, this present year, how many tons of apricots did you harvest from your 17 acres? A. About 200 tons.

Mr. Naus: You may cross-examine.

Cross-Examination

Mr. Moore: Q. Mr. Anderson, will you describe this dust that was deposited in 1943 on your 17 acres? I mean its appearance as it was in the air?

A. How it looked as it settled or as it traveled through?

Q. As it traveled through.

A. Well, when there was no wind at all, as it came out of the stack it went into the air and settled like an umbrella all over.

Q. How close are you to the plant?

A. I should judge about 300 yards from the stacks.

Q. 300 yards from the stacks?

A. I have never measured it, but just——

Q. You are in the immediate vicinity there?

A. Yes, sir.

Q. That same condition existed in 1944?

A. Not so bad.

Q. You say not so bad?

A. Since they put in a control or a Cottrell it has improved.

Q. It has improved it? A. Yes, sir.

Q. Can you give us an estimate of the comparison of the amount [441] of dust that came on your place in 1943 with that that came on in 1944? I mean, from merely observing it in the air.

(Testimony of Leo Anderson.)

A. In tons or——

Q. No, just its appearance.

A. Well, it is not as bad; that is all I can say.

Q. Would you say it is 75 per cent as bad, three-quarters as bad? A. Not quite.

Q. You say "Not quite."

A. I would say 25 or 30 percent as bad.

Q. 25 or 30 percent as bad; that would be your estimate? A. Yes, sir.

Q. Have you ever measured in any way the amount of dust that has been deposited on your place? A. No, sir, I have not.

Q. Never made any measurement of any kind. So you have no figures or measurements on which you can base the figure of 25 or 30 percent, is that correct? A. Just a guess.

Q. You had 200 tons in 1944, is that right?

A. Yes, sir.

Q. Did you have a big crop that year?—I mean a big blossoming? A. In 1944?

Q. 1944. A. Yes, sir.

Q. Were your cots set satisfactorily in that orchard? A. In 1944?

Q. Yes. A. Yes, sir.

Q. Did any of them drop off?

A. Very light June fall.

Q. A very light June fall? A. Yes, sir.

Q. You say a light June fall. Isn't it true that in orchards generally over the years that there is a June fall of cots?

(Testimony of Leo Anderson.)

A. We have a June fall pretty near every year.

Q. In other words, that is the nature of the fruit, isn't it? A. Yes, sir.

Q. Aside from this June fall did you have any fall at all of your cots?

A. No, sir, not in 1944.

Q. Did you have to thin out that orchard in 1944? A. Yes, sir.

Q. To any extent? A. Very much.

Q. In other words, the crop that set in 1944 was probably the largest crop you had ever had set; is that right?

A. Well, I have had them set as heavy before, but the trees were smaller.

Q. What?

A. The trees were smaller. They couldn't carry that amount of a crop to be left.

Q. I am speaking now so far as the number of cots on the trees compared to the size of the trees. I am speaking now before you thinned out. Did you ever have a crop that was heavier on the tree regardless of the size of the tree?

A. I believe I have.

Q. Can you tell us what year?

A. Not offhand, no.

Q. Would you say that the crop that set in 1944 was the second largest crop that you ever had set on those trees? A. Yes, sir.

Q. And it was so heavy it had to be thinned out, is that correct? A. Yes, sir. [443]

(Testimony of Leo Anderson.)

Q. How long a blossoming period was there in 1944?

A. I don't remember. I didn't keep track of it, but, you know, average. Probably a couple of weeks.

Q. You stated in response to a question of Mr. Naus that you believe the reason for your 1943 loss of fruit was the dust, is that correct?

A. Yes, sir.

Q. And the dust that was deposited there on your orchard in 1944 was 25 or 30 percent of that which was deposited in 1943, is that correct?

A. Well, just a rough guess. We are getting that much dust this year.

Q. How do you account for the fact that in 1944 you had the second largest crop set that you had ever had since you owned those orchards, if it still had 25 or 30 percent of dust on it? How do you account for that?

A. That other 75 percent would be enough to cover your entire blossom surface.

Q. In other words, you believe that the 25 percent had no injurious effect, is that right?

A. Well, it didn't appear to.

Q. Would it be your view that if it had been a 50 percent dust that that would have affected your crop in 1944?

A. Well, it might have had some effect on them.

Q. But 25 to 30 did not?

A. It didn't seem to.

(Testimony of Leo Anderson.)

Q. It is your opinion, then, that if the dust deposit was between 25 and 30 and 50 percent, it would have had some effect on your crop?

The Witness: Will you repeat that question again? [444]

Mr. Moore: Will you read it, Mr. Reporter.

(Question read.)

The Court: Do you understand the question?

The Witness: I do, sir.

A. Well, it might have.

Mr. Moore: Q. On what do you base that?

A. Well, maybe the 25 percent was not quite enough to really cover your entire pollen of your blossom to kill them.

Q. How does this dust settle on your orchard? Does it come from one side, or how? How does it come?

A. It all depends on the wind. At night it comes right straight down. There is no wind. It comes down like an umbrella.

Q. How does it come in the daytime?

A. With the wind.

Q. So far as your windage is concerned, during what hours of the day does the wind blow?

A. In which direction?

Q. Well, from the plant toward your orchard?

A. If it blows, it blows early in the evening when we get the wind towards our place. In the afternoon it is more towards the Pistas'.

Q. You say early in the evening?

(Testimony of Leo Anderson.)

A. Well, along five or six o'clock there will be a slight breeze coming that way.

Q. Between five and six?

A. And on into the evening.

Q. Well, how long?

A. Oh, sometimes six o'clock, half past, and other nights it will blow up until ten or eleven o'clock.

Q. Does it blow toward your place in the morning? [445]

A. Very seldom.

Q. What hours would you say there is a wind which does not blow towards your place?

A. Well, around noon it usually blows the other way. In the evening it comes back.

Q. Let us take from twelve o'clock noon. From twelve o'clock noon which way—to say five o'clock—which way does the wind blow?

A. It is usually a light west wind blowing.

Q. And blows away from your place?

A. From our place, yes.

Q. So from twelve to five there is no deposit of dust on your place, is that right?

A. If there is any wind.

Q. What is that? A. Is there is a wind.

Q. But that is the usual condition there; the wind is away from your place from twelve to five. Then from five to ten or eleven o'clock at night it is towards your place and there is a deposit of dust usually, is that it? A. Yes, sir.

Q. Now, from eleven o'clock on to some hour

(Testimony of Leo Anderson.)

which you may name, what is the condition of the wind or lack of wind? A. At night?

Q. Well, from eleven o'clock on.

A. Well, there is no wind to speak of, and it just goes into the air.

Q. Up until what time?

A. That is hard to tell. Some days one time, some days another.

Q. I realize the wind is not constant, but I am trying to get a general approximation, Mr. Anderson.

A. There are days when the wind will come up at ten or eleven o'clock, and other days [446] when it will not start until two o'clock.

Q. I am trying to find out what percentage of the day, what portion of the day the wind blows towards your place, what portion blows away from your place, and what portion there is no wind, or it is calm. Can you tell us that?

A. Roughly, yes. From noon on until five, half past four or five o'clock, it will blow from the west.

Q. That is away from your place?

A. Yes, sir. And in the evening as a rule the wind is blowing the other way and brings it towards my place.

Q. Until eleven o'clock at night?

A. Yes, until eleven o'clock, sometimes earlier.

Q. Then from eleven o'clock until——

A. Different seasons of the year.

Q. Let us confine ourselves now to the blossom-

(Testimony of Leo Anderson.)

ing period. Let us take 1944. When did your pink bud period commence in 1944?

A. I think it was in March.

Q. March? A. I don't remember the date.

Q. Early or late?

A. Well, it was a late blossoming season.

Q. Can you give us any idea, March when?

A. I cannot. I didn't keep track of it.

Q. When the buds opened and the blossoms came, can you tell us when the first blossoms came on your ranch in 1944? A. No, sir, I could not.

Q. You say it was not a particularly long blossom period; I believe approximately two weeks?

A. Something like that, yes. [447]

Q. Can you give us an approximation of the dates in 1944 of your blossom period, that two-week blossom period? A. No, I cannot, sir.

Q. There is no way that you can get that information?

A. I could if I had looked at my books to see when I sprayed, but I didn't look.

Q. You haven't your books with you?

A. No, sir.

Q. During the 1944 blossoming period can you tell us how many days the wind blew the dust towards your orchard?

A. No, sir, I couldn't.

Q. Could you give us an approximation?

A. Well, no, sir.

Q. Could you tell us how many days you had

(Testimony of Leo Anderson.)

calm when this dust settled on your orchard in the 1944 blossoming period?

A. I could not, sir.

The Court: The only difficulty about that is, his ranch is only 300 yards away from this stack. When the wind was not blowing at all it was still deposited.

Mr. Moore: I realize that, your Honor. I realize that.

The Court: And I may say in passing we have had some difficulty here in determining the wind. How was it last week?

Mr. Moore: I appreciate your Honor's remark. I want to come back to 1943, because I realize this gentleman's orchard is in a different position; where there is no wind there perhaps could be dust on it, which I do not believe is the case with the Pista orchard. [448]

The Court: I think this witness is doing the very best he can under difficulties.

Mr. Moore: I appreciate it, your Honor.

Q. Turning to the 1943 blossoming period, that was a comparatively early blossoming period, was it not? A. Yes, sir.

Q. And it was a long one, was it not?

A. Yes, sir.

Q. Approximately how long?

A. Well, there was three different sets of blossoms.

Q. Three different sets of blossoms. Can you tell us what kind of weather you had in the first blossoming? Do you recollect?

(Testimony of Leo Anderson.)

A. No, I do not, sir.

Q. Was it rainy and foggy and cold?

A. We had some rain, yes, sir.

Q. Do you remember whether it was foggy?

A. No, I do not.

Q. Now, on that first blossoming, your cots fell off, did they not? A. Yes, sir.

Q. After they were formed? A. Yes, sir.

Q. Did you observe any jacket rot?

A. They never got big enough for a jacket rot.

Q. They never got big enough for a jacket rot?

A. No, sir.

Q. Did you notice any fermentation or rot of any kind? A. In the small cot?

Q. Well, in the blossom or the cot?

A. The cots were really too weak to tell anything about them. They just formed and dropped off.

Q. Was that practically the entire setting of the first blossoming that dropped and fell off?

A. Yes, sir.

Q. Do you know whether that same thing happened on the Pista ranch? A. I do not, sir.

Q. Do you know whether it happened on the Sterling ranch? A. No, I do not.

Q. Do you know whether it happened on the Hill ranch? A. No, sir.

Q. Do you know whether it happened on any other ranch in Monterey County?

A. No, I do not, sir.

Q. Do you know whether or not there was a short crop of apricots in Monterey County in the year 1943? A. There was around Natividad.

(Testimony of Leo Anderson,)

Q. Do you know whether there was throughout the county? A. Some people had a good crop.

Q. Will you please answer the question: Do you know whether or not there was a short crop of apricots in Monterey County in 1943?

A. I do not, no, sir.

Q. Do you know whether or not there was a short crop of apricots in the entire State of California in the year 1943?

A. I believe there was from some reports.

Q. Well, didn't you in Monterey County make inquiry of your neighbors and the agricultural officials of the State of California at Salinas relative to the size of the crop in Monterey County, and relative to the causes of that short crop?

A. I do not know, sir. [450]

Q. You never inquired of anybody, as to whether there was a short crop in Monterey County?

A. Not off-hand. I don't remember whether I did.

Q. You never discussed whether or not there was a short or a long crop, did you? A. No.

Q. Now, on the second blossom on your ranch or orchard, did the little cots drop off again?

A. Yes, sir.

Q. The same as the first one?

A. The same as the first.

Q. Do you know of any other orchard in Monterey County where that same thing occurred?

A. No, I do not—not that I did not go to examine the other orchards, so I wouldn't know.

(Testimony of Leo Anderson.)

Q. Have you consulted Mr. Harrington relative to suing the Permanente Metals Corporation?

A. Yes, sir.

Q. So you are here as an interested witness, are you?

A. Yes, sir.

Mr. Naus: I am glad you put it that he consulted Mr. Harrington instead of the other way around, in view of that letter.

Mr. Moore: We did not go into those details, Mr. Naus.

The Court: Q. Did you drive up?

A. Yes.

The Court: Bear in mind there are 22 cows down there.

Mr. Moore: I am afraid I will have to take some time examining this witness this afternoon, particularly in the light of this situation that has developed. I want to examine him quite fully.

The Court: Q. Who is down on the ranch?

A. Just my wife.

Q. No help at all?

A. No. [451]

The Court: I am afraid we will have to run during the noon hour. I am a sort of realist. I meet these problems practically. I think it is important that those cows be taken care of. I know if I was down there located where he was and hadn't been to the city in twenty years, I would want to spend a little time here. He has not been here three hours and he wants to go back and milk the cows. Those are situations we have to meet.

Mr. Moore: Q. Mr. Anderson, on the third blossoming what happened?

(Testimony of Leo Anderson.)

A. There was a few on the top limbs, the top branches that stayed—very few.

Q. On the top?

A. Just the outside branches.

Q. And they formed cots?

A. Yes, sir, but very few.

Q. You say your yield there was about ten ton?

A. Yes, sir.

Q. What was the previous short crop that you had on that ranch? A. 37 tons.

Q. When was that? A. '40, I believe.

Q. Do you know whether or not there was a short crop in Monterey County in 1940?

A. I do not, sir.

Q. Do you know that Mr. Pista had a short crop of 119 tons in 1940?

A. I did not know it.

Q. Have you any recollection or memory as to the comparable weather conditions in 1940 and 1943?

A. No, I do not. We had rain off and on; sun--shine as a rule.

Q. You have had this orchard since 1917?

A. 1918. [452]

Q. Haven't you studied and been interested in the weather conditions as they apply to the kind of yield you have?

A. We think of that all year but we can't do anything about the weather, so we take it.

Q. Do you mean to tell me as a farmer where you have a short crop you have no recollection of the

(Testimony of Leo Anderson.)

weather that you had in connection with that short crop?

A. It might have something to do with it.

Q. Have you any recollection? A. No, sir.

Q. I have known many farmers; universally, when they have a short crop they have a very clear recollection of the weather, and you have no recollection at all of the particular weather, you had in either 1940 or 1943, is that correct?

A. That is correct.

Q. Do you know what this dust is composed of, what chemicals? Do you know what kind of dust it is? A. Well, I know it is dolomite dust.

Q. Do you know what that is?

A. Calcium.

Q. What is calcium? That is commonly called limestone, isn't it? A. I do not know, sir.

Mr. Naus: There is some of it in the cows' milk, I believe, Mr. Moore.

Mr. Moore: Q. Do you use Bordeaux mixture in spraying your trees? A. Yes, sir.

Q. Do you know what that is composed of?

A. Lime and bluestone. [453]

Q. Isn't calcium lime?

A. A form of it, I suppose.

Q. Do you know the difference?

A. No, sir.

Q. You sprayed that Bordeaux in 1943, did you?

A. Yes, sir.

Q. You do not attribute your short crop to the lime in the Bordeaux, do you? A. No, sir.

(Testimony of Leo Anderson.)

Q. Why, then, do you attribute your short crop in 1943 to the lime in the dolomite?

A. Well, that lime is diluted very much with water as we spray, whereas the dust is not.

Q. How do you know that?

A. From looking at it, I know we put the water in the Bordeaux and bluestone and lime.

Q. In what proportion do you put it in?

A. 8-8-50.

The Court: Q. 50 gallons of water?

A. Yes.

Mr. Moore: Q. 8——

A. 8 of lime, 8 of bluestone, and 50 gallons of water.

Q. 8 what of lime? Pounds?

A. 8 pounds of lime.

Q. Do you know whether that lime that is the Bordeaux mixture is caustic or not?

A. I do not know, sir.

Q. Do you know whether the lime in the dolomite is caustic, or not? A. No, sir.

Q. Where does the lime in the dolomite differ from ordinary road dust?

A. Well, it is a different color, but road dust will ruin your blossom of any plant.

Q. It will? A. Yes, sir.

Q. In other words, if it is road dust it will ruin your blossom? A. Yes, sir. [454]

Q. Why do you say that?

Q. Where did road dust ruin your blossoms?

A. From experience.

Q. Where? A. On the ranch.

(Testimony of Leo Anderson.)

A. On a bean crop.

Q. When? What year?

A. Along about 1935, 1936.

Q. Where did the road dust come from?

A. From my roadway through the field.

Q. And you attribute it to your own roadway?

A. Yes, sir.

Q. And you attributed the loss of your bean crop to this road dust, is that correct?

A. Yes, sir—not the entire crop, but close to the whole.

Q. Let us get into beans. I do not know anything about that. Do they have a fertilization period?

A. I suppose so.

Q. What time of the year does that take place?

A. In June, about June, July.

Q. In that particular year were you driving over this road a great deal?

A. Yes, sir.

Q. Does a bean have a bloom to it?

A. Yes, sir.

Q. Did those blooms drop off?

A. They did not drop off, but they just didn't form a bean.

Q. How thick was that bean dust?

A. Well, I would probably drive by a couple of times a day going to a beet field.

Q. And you attribute that loss to driving by there a couple of times a day on the beans, is that it?

A. Yes, sir.

Q. How long is the pollinization period in a bean do you know?

(Testimony of Leo Anderson.)

A. I do not know, sir. [455]

Q. Do you know how long it takes in an apricot?

A. No, sir.

Q. Do you know that the pollinization period in an apricot from the time the pollen lands is not over an hour of two hours?

The Court: In what authority did you read that?

Mr. Moore: I have the authority, your Honor.

The Court: You do not think the witness has that, do you?

Mr. Moore: I am trying to find out how he figures this dust killed these cots.

Q. You know how long that pollinization period is, Mr. Anderson? A. No, sir.

Q. Upon what fact do you make the claim that the dust in 1943 injured your crop?

A. Because it did not cover the entire blossoms, so that it could not pollinize.

Q. You know nothing about a similar condition existing in any other orchard in Monterey County, is that right?

A. I didn't go to find out.

Q. And you do not know what the general condition with apricots in Monterey County was in 1943?

A. I know it was short around our part of the country.

Q. Do you know where the Bardin ranch is?

A. Yes, sir.

Q. Is that affected by dust? A. No, sir.

(Testimony of Leo Anderson.)

Q. Do you know that they on their first setting lost all their cots? A. I never knew that, sir.

Q. How far is the Bardin ranch from your place? A. I should judge 12 or 15 miles.

Q. What is the closest orchard to your place?

A. Mr. Pista.

Q. What is the next closest?

A. The Hill orchard, I believe.

Q. Is it affected by dust?

A. To a certain extent it was.

Q. How do you know that?

A. From driving in there.

Q. You have driven in there? A. I have.

Q. Have you discussed the dust with them?

A. No, sir.

Q. Do you know what happened there in 1943?

A. No, sir.

Q. Do you know on the first blossoming the cots dropped there? A. I did not.

Q. Do you know whether they did on the second one? A. No, sir.

Q. You are friendly with the Hills, aren't you?

A. The Hills aren't there any more.

Q. Were you friendly then?

A. What is that?

Q. Were you friendly in——?

A. They weren't there. I went there to see a man who was working.

Q. Who was that?

A. Mr. Brisage. I wanted him to help me work, but he was already working.

(Testimony of Leo Anderson.)

Q. When did you go to see him? Before or after the blossoming season? A. Before.

Q. Did you see him afterwards? A. No, sir.

Q. And that is your sole observation of the Hill ranch, is it? A. Yes, sir.

Q. What is the next closest ranch to your place?

A. I don't know—it could be Mr. Wilmuth.

Q. How far is Mr. Wilmuths's place from yours?

A. Oh, probably [457] three air miles.

Q. Are you friendly, or were you friendly with him? A. No.

Q. Unfriendly?

A. Not unfriendly, but I just don't go there. Nothing to go for.

Q. Did you ever visit his orchard in 1943?

A. No, sir.

Q. Did you ever discuss with him the 1943 crop?

A. No, sir.

Q. Do you know whether or not on his orchard the cots dropped of on this first cycle?

A. I do not know, sir.

Q. Do you know what they did on the second one? A. No, sir.

Q. Or on the third one? A. No, sir.

Q. Do you know his yield? A. No, I do not.

Q. Is there anybody in that immediate vicinity who is engaged in the apricot-growing business that you are friendly with and discussed matters with?

A. Mr. Pista.

Q. Mr. Pista is the only friend you have in that neighborhood that you have discussed the orchard business with, is that right?

(Testimony of Leo Anderson.)

A. Not the only friend, but the only one I happened to discuss apricots with.

Q. Have you any other friend in the neighborhood who is engaged in the orchard business raising apricots? A. Mr. Sterling; Mrs. Bardin.

Q. Mrs. Bardin; all right. Did you ever discuss with Mrs. Bardin the conditions on her ranch in 1943?

A. After my fruit was all gone she came to see me and told me she had a good crop. That is all the discussion, the conversation we had. [458]

Q. Did she tell you how big a crop she had?

A. No, she did not. She said she had a good crop that required spraying.

Q. Have you ever talked over with Mr. Naus or Mr. Harrington what you were to testify to here today? A. No, sir.

Q. You never had any discussion with them at all? A. I have talked to them, yes.

Q. Did you ever discuss with the Sterlings the 1943 crop? A. No, sir.

Q. Were you ever on their ranch?

A. Mr. Sterling's?

Q. The one you referred to.

A. Mr. Robert Sterling? No, I wasn't there.

Q. What is that? A. I wasn't up there.

Q. Which Sterling are you friendly with?

A. Robert Sterling.

The Court: Q. Is there anybody in the neighborhood there that you are unfriendly with?

(Testimony of Leo Anderson.)

A. No, not that I know of.

The Court: Why do you repeat the question about his being friendly with those people?

Mr. Moore: The reason I am doing that is this: Here is a man who is in the orchard business, and he has never discussed his crops with anybody, and to me it is utterly impossible—we lawyers talk things over.

The Court: I know, but you have not been on a ranch twenty years. After you have stayed in one spot for twenty years and attended to your work, you probably do not talk much to anybody. [459]

Mr. Moore: Not quite so long.

Mr. Naus: I know we sometimes talk too much. Farmers are not afflicted that way.

Mr. Moore: That is all.

Mr. Naus: One or two questions.

Redirect Examination

Mr. Naus: Q. You say Mr. Wilmuth is what distance away from your place, his orchard?

A. I should judge between two and three miles.

Q. What did you estimate the distance of the Wilmuth apricot orchard from the stacks of this Permanente plant?

A. That would be probably three miles and three hundred yards, something like that.

Mr. Naus: That is all.

(Thereupon a recess was taken until 2:00 o'clock p. m.) [460]

Wednesday, September 20, 1944

2:00 p. m.

The Court: Proceed, gentlemen.

Mr. Moore: Call Mr. Packard.

WALTER E. PACKARD

called for the defendant; sworn.

The Clerk: What is your name?

A. Walter E. Packard.

Direct Examination

Mr. Moore: Q. Where do you live, Mr. Packard?

A. I live in Berkeley.

Q. What business are you engaged in?

A. I am an agricultural engineer,— an agricultural consultant, really.

Q. Have you been employed in this case?

A. Yes.

Q. By whom?

A. By the Permanente Metals Corporation.

Q. Will you kindly state in a brief way to his Honor your qualifications—your educational background and qualifications.

A. Why, I first graduated from Iowa State College at Ames in 1907, four-year course in agriculture; then in 1909 I graduated from the University of California also in agriculture. Then for ten years I was with the University of California first as superintendent of the Imperial Valley experiment farm, and later in charge of the agricultural extension work in the counties in the San Joaquin Valley and in Southern California. After that I

(Testimony of Walter E. Packard.)

spent most of my time as consultant in [461] agricultural matters. For three years I was in Mexico in charge of the development of irrigation projects for the Mexican government, making soil surveys and other plans of the development, and otherwise consulting both the public and private agencies.

Q. Now, Mr. Packard, I am going to hand you a color map or diagram and ask you in regard thereto. I hand you a diagram purporting to show the Pista ranch, and ask you if you prepared that.

A. Yes.

Q. Can you tell me how you prepared it?

A. Yes; I prepared this from an air map showing this general territory of the map in the possession of the Agricultural Adjustment Administration in Salinas. I had access to the map there, and I made a copy of it on thin paper; then I made this enlargement by the use of a pentograph, so in general it shows the same relationship.

Mr. Moore: We don't claim that it is scalable in any way.

Mr. Naus: I presume it is copied from the data that they have down there in that Watsonville office of the Soil Service of the Federal Government.

The Witness: The same thing—same type.

Mr. Naus: It isn't the same type. It is the very thing rather than the same type—the same thing as what you copied it from, I take it, is that right?

The Witness: The maps were taken during different years, and I am not at all sure that this is the same as for some of [462] the years.

(Testimony of Walter E. Packard.)

Mr. Naus: What I meant to say, if the Court please, if I gathered that that is a true copy of what this soil survey shows—I know that at Watsonville they have been doing some very good, careful survey—then I won't question it if it is from their data.

Mr. Moore: That is correct.

Q. You have filled in there, Mr. Packard, have you not, in a more or less rough way the Pista ranch and the type of land and the type of trees that are on that? A. Yes.

Q. And the Pista ranch is the one that is surrounded by the heavy black line, is that correct?

A. Yes.

Q. And this twisting line that runs through there is that a creek?? A. Yes.

Q. To the north of the creek you have two areas marked "Young apricots on river sand," and "Young apricots on coast"—is it?

A. "Coarse."

Q. "—coarse sand." Down at the other end you have in pink marking, "Replants." A. Yes.

Q. And then "Hill Land," which is in white?

A. Yes.

Q. And the balance of the Pista ranch is in white? A. Yes.

Q. Is that correct? A. Yes.

Q. The part of the Pista ranch that is in white, does that constitute the apricot orchard?

A. Yes.

Q. The young apricots are not yet in production?

A. No. [463]

(Testimony of Walter E. Packard.)

Q. And the hill land has apricots on it, is that correct? A. Yes.

Q. But they are not the same type of ranch, as we might term it, as the balance—I mean the hill land?

A. It is a different type of soil; it is not irrigated, and the trees are stunted.

Q. How about the replants? Are they producing?

A. They are planted to apples and not yet in production, and in some cases young apricots not yet in production.

Mr. Moore: I will offer this, Mr. Naus.

(The map was marked Defendant's Exhibit M in evidence.)

Mr. Moore: Q. When did you first visit the Pista ranch? A. On July 2, 1943.

Q. That was after the pollinization period?

A. Yes.

Q. You weren't present or in that vicinity during the pollinization period, were you?

A. No, I was not.

Q. In other words, the first time you observed these trees on the Pista ranch was in July 1943?

A. Yes.

Q. Now, on that particular trip did you observe the trees on other ranches in the vicinity?

A. Yes.

Q. Can you tell us what particular ranches you visited on that first trip?

A. I visited the Pista ranch first and noticed

(Testimony of Walter E. Packard.)

the dust condition on that ranch. Then I visited the Anderson ranch, the Kern ranch, the Hill property, the Sterling property, and that was all on that first July 2 trip.

Q. Have you since that time had occasion to visit those [464] particular ranches and other ranches in the vicinity? A. Yes.

Q. Can you give us an idea how many times you have been down there observing the ranches and trees and fruit and its condition?

A. Well, I have been down at least twelve times, I should say.

Q. And were you there during the harvesting season in 1943? A. Yes.

Q. Approximately when was that, Mr. Packard?

A. That was the first part of July.

Q. That is when it started, was it?

A. Yes, and it finished in July.

Q. Were you present on the Pista ranch during the harvesting? A. Yes.

Q. Did you visit other ranches in the vicinity during the harvesting? A. Yes.

Q. And subsequent to that time did you visit those ranches again? A. Yes.

Q. Did you visit those ranches in the pollinization period of 1944? A. Yes.

Q. And did you observe at that time the process of pollinization on those ranches, and what was going on? I mean——

A. I don't know exactly how you could observe

(Testimony of Walter E. Packard.)

the process of pollinization. I observed the condition of the trees at that time, yes.

Q. And the condition of the blooms?

A. Yes. [465]

Q. And the apparent or possible yield and all the other matters connected with the orchard?

A. Yes.

Q. Did you visit the orchards again in 1944 during the harvesting period? A. Yes.

Q. In other words, from July 1943 to date over the course of a dozen trips you have had occasion to observe those orchards in the vicinity of Natividad during the various parts of the year relative to the condition of the trees and all matters connected with the horticulture of these trees or agriculture, or whatever we might term it?

A. Yes.

Q. Did you visit any other ranches in or about Monterey County since July 1943? A. Yes.

Q. Can you relate to his Honor what other ranches you visited.

A. I visited the Lester Sterling ranch, the Bardin ranch, the ranch belonging to the California Orchards Company near King City, the Eiper property; several ranches, or four or five ranches in the neighborhood of Aromas in San Benito County; Mr. Johnson's ranch just north of Hollister in San Benito County; Mr. Wilmoth's ranch; Mr. Reeves'—Dr. Reeves' ranch; and think that is all.

Q. And on these visits that you refer to did

(Testimony of Walter E. Packard.)

you talk to the owners or managers of these various ranches? A. Yes.

Q. Relative to their crops? A. Yes.

Q. Both in 1943 and 1944? A. Yes.

Q. Did you discuss with them the conditions that existed in [466] the year 1943? A. Yes.

Q. In other words, you discussed their entire crop situation during that period of time, did you?

A. Yes.

Q. And did you discuss with any of the officials of Monterey County connected with agriculture the conditions that existed, or, rather, the yield had in 1943? A. Yes.

Q. And did you discuss with them the cause of the yield? A. Yes.

Q. Or lack of yield? A. Yes.

Q. Whom did you discuss those matters with?

A. I discussed them with Mr. Lewis and Mr. Tavernetti.

Q. Who is Mr. Tavernetti?

A. Mr. Tavernetti is the county agent—farm adviser.

Q. Farm adviser? A. Yes.

Q. Did you get the yields of Monterey County and other counties in the vicinity for a number of years? A. Yes.

Q. Did you get the yields throughout the State?

A. Yes.

Q. And was there a short or a long crop in 1943 throughout the State?

Mr. Naus: Objected to as calling for hearsay.

(Testimony of Walter E. Packard.)

Apparently the witness wants to summarize some hearsay he has heard. If there are official publications giving the yield, I make no objection, but I certainly——

Mr. Moore: That hasn't been questioned so far, that there was a short yield in the State, Mr. Naus.

Mr. Naus: Well, I know. There is no question about that, Mr. Moore, but it still doesn't go to the point that you are entitled to ask this witness to give us some hearsay.

Mr. Moore: I am just asking the simple question, which has not been denied—that has been testified to quite a number of times by everyone—that there was a short crop. It is merely a preliminary question.

Mr. Naus: If the Court please, after asking all the people he has talked to, he is asking the witness, who apparently was not there—he is asking him to give it in the form of hearsay.

The Court: Do you know of your own knowledge——

The Witness: The records.

The Court (continuing): —the yield?

The Witness: From reading the records of the State, official records, yes, sir.

Mr. Naus: If there are any official records——

The Court: You are entitled to the records.

Mr. Naus: If there are any official records, if they are produced and I recognize them, I will make no objection.

Mr. Moore: Q. All right. Mr. Packard, will you produce them?

(Testimony of Walter E. Packard.)

A. The yields for the State for 1943——

Mr. Naus: One moment. He hasn't asked the witness to read off anything. He just asked him to produce the records.

The Witness: Excuse me. [468]

Mr. Moore: He has produced from the University of California College of Agriculture, Agricultural Experiment Station, Berkeley, California, Deciduous Fruit Statistics as of January 1943, by S. W. Shear dated June 19, 1943.

Mr. Naus: If the Court please, I will make no objection to that document being recognized as being what it purports to be; that it be marked for identification, and any of the statistical portions bearing upon apricots in California, I will have no controversy about that.

Mr. Moore: All right.

(The book was marked Defendant's Exhibit N for Identification.)

Mr. Naus: Do you want to indicate or designate the particular pages that you are seeking to draw the Court's attention to now?

Mr. Moore: You are drawing the Court's attention——

Mr. Naus: No, I am making an objection. All I am doing is making an objection to the witness' retailing some hearsay.

Mr. Moore: Q. From a study of this—have you any other documents?

A. I have the records for counties.

Q. And from this—you have studied this?

(Testimony of Walter E. Packard.)

A. Yes.

Q. Does this show that there was a subnormal yield throughout the State in 1943?

Mr. Naus: One moment. I now object to that as calling for secondary evidence of the document. The document, if it is a statistical study, will speak for itself rather than having someone's version fastened on it.

Mr. Moore: I can spend hours on these statistics, your Honor. It is merely preliminary. We have gone on here for four or five days, and this is the first time that there has been any question that there was a short crop in 1943.

Mr. Naus: If the Court please, there is no question about it now, but I say that the writing should speak for itself instead of the witness trying to speak for it.

Mr. Moore: I am merely laying the basis to show his experience and knowledge, and I simply asked him a very simple question, whether there was a short yield so far as he knew in 1943 in the apricot crop.

The Court: It is admitted there was.

Mr. Moore: Yes, it is admitted.

The Court: All right; proceed.

Mr. Moore: Q. Now, Mr. Packard, relative to this short crop in 1943 did you discuss with various people, experts in the State, the cause of that short crop from what they knew? A. Yes.

Q. Whom did you discuss that with?

A. I discussed that with Dr. Rudolph of the

(Testimony of Walter E. Packard.)

deciduous fruit experiment station at San Jose. I discussed it with the Horticultural Commissioner of Santa Clara County, the Horticultural Commissioner for San Benito County, the County Agent in San Benito County, both the [470] County Agent and the Horticultural Commissioner in Monterey County; with Professor Ralph Smith of the University; with Professor Tufts of the University; with Dr. Yarwood of the University; with Dr. Bohmer and Dr.—three or four others whose names just don't come ot my mind just now.

Q. Did you discuss it with various orchardists?

A. Yes.

Q. Did you discuss the appearance of their trees with them? A. Yes.

Q. And what they had observed in the year 1943? A. Their experience in '43, yes.

Q. Their experience in their orchards?

A. Yes.

Q. Did you discuss with them the weather conditions that had existed in 1943 at that time in their vicinity? A. Yes.

Q. In your studies did you secure various statistical data relative to yield and various other matters connected with the apricot crops of 1943?

A. Yes. ,

Q. From all that data and information did you make various studies and observations and reach various conclusions as to the cause—as to the extent of the short crop in California and also the

(Testimony of Walter E. Packard.)

extent of the short crop in San Benito, Monterey, and those counties in the vicinity of Natividad?

A. Yes.

Q. As a matter of fact, to the best of your ability as an expert in this line, you have secured all the data that was possible to get as to the shortage of the crop in 1943 and the cause of it through statistical data, conferences with [471] county officials, orchardists, and everybody who had information on that subject? A. I tried to, yes.

Q. And from all that information you have been able to form exact conclusions, have you, as to the extent of this short crop and the reasons for it?

A. Yes.

Q. I am asking you now as an expert, with that data at your disposal that you have just outlined, what, in your opinion, was the cause of the short crop throughout the State of California in 1943?

Mr. Naus: Objected to upon the grounds, first, that it is perfectly apparent from the witness' answers so far that he has based the conclusion or opinion that is now called for by the question in whole or in part upon hearsay, what was told to him by others.

Mr. Moore: I think that an expert witness——

Mr. Naus: Please. I haven't finished, Mr. Moore. I don't like interruptions.

Mr. Moore: I thought you were through.

Mr. Naus: No, I am not. So as to leave no doubt about the objection, I would like to restate it in complete continuous form.

(Testimony of Walter E. Packard.)

I object to the question upon the grounds, first, that it appears from the answers of the witness thus far that the conclusion or opinion that the question calls for is one that would be drawn in whole or in part from hearsay—the hearsay [472] indicated by his previous answers; and, secondly, upon the ground that it is immaterial what may have been the cause of a short crop throughout the State of California as a whole away from the particular apricot-bearing region in controversy here.

Mr. Moore: I want to interrupt you a minute. When I say the State of California as a whole, I am not intending to exclude this particular area. I am asking in regard to the whole State.

In reply, your Honor, to Mr. Naus' argument, it has always been my understanding that all opinion evidence has to be in the nature of hearsay. The very basis of practically all opinion evidence is hearsay. No man can make a study of a subject that is not in large part based upon hearsay. I submit the question is a proper question. Having qualified him as an expert, shown what his investigations consisted of, the very exhaustive investigation as to the causes, and as an expert in his line, he is entitled, having weighed all those facts and all the knowledge that has come to him of conditions throughout the State to inform your Honor what, in his opinion—it is an opinion; we don't claim it is a statement of fact; we claim it is a statement of opinion—what in his opinion was the cause of the short crop of apricots in California in 1943.

(Testimony of Walter E. Packard.)

Mr. Naus: Have you finished, Mr. Moore?

Mr. Moore: Yes.

Mr. Naus: I merely wish to point out in a short way that [473] I concede that science experts and the like have got to reach into studies of all the scientists in the past so far as known, so far as books show them. If this were a matter that were one merely calling for an opinion and conclusion of the witness in a particular scientific field, and if he had read the scientific literature and formed his opinion along with other matters, no objection could be possibly soundly made by me. But when you go to the point of talking to different orchard owners, Tom, Dick and Harry, everybody who is not a scientist, and then in turn seek to base an opinion and conclusion on what people may have told you—they may have told you facts, they may have told you conjectures, they may have told you accurate or inaccurate opinions or conclusions—then I say it is the most vicious calling for hearsay.

Mr. Moore: I make this answer to it: I have always understood that courts were not for the exclusion of evidence but rather for the admission of evidence. It is admitted that in the State of California, your Honor, in 1943, that there was a short crop. Now, there must have been a cause for that short crop throughout the State. There is no one human being in this State of California that could get on this witness stand and tell your Honor what the cause of the short crop in 1943 was throughout the State of California. It has to be and only

(Testimony of Walter E. Packard.)

can be determined by the consensus of learned opinion generally as to a crop that extends over a whole area of thousands of [474] miles; it has to be a compilation of facts, statistics, and opinions, and each and all of those weighed by someone who is an expert. As I say, there is no human being in the world today who could assign and inform your Honor as to the cause of the short crop in Northern California in the year 1943—and it is admittedly a short crop—except through the medium of just such a process as we have pursued here. As I understand it, we are not presenting it as a fact; we are presenting it as this man's opinion as derived from all this data that he spent so much time securing.

Mr. Naus: I submit the matter.

The Court: The objection will be overruled subject to a motion to strike over the objection of Mr. Naus. You may answer.

The Witness: Could you read the question again, please?

(Question read.)

A. In broad analysis, it was weather conditions.

Mr. Moore: Q. Will you explain that a little more fully?

A. Yes. The weather conditions during——

Mr. Naus: I assume, Mr. Moore, it is understood that this subsequent question carries the same objection?

Mr. Moore: Same objection as to anything derived from his studies.

(Testimony of Walter E. Packard.)

A. The weather conditions during the winter and spring in 1943 were unusual in several particulars. In the first place, the [475] winter was unusually warm, which, according to studies made by the University, led to a very unusual dropping of buds, both leaf buds and fruit buds, during the following period. That was one cause for dropping of buds—an excessive dropping of buds in 1943. Also during February—during January, February, and the first half of March—particularly during the last part of February and the first half of March—it rained nearly every day; it was very foggy; it was unusually warm; and as a result there was an excessive, and unprecedented, really, development of jacket rot. There was quite a good deal of development of brown rot also, but primarily jacket rot of two kinds. The jacket rot developed in all portions of the State where they grow apricots and is assigned as a principal cause for the dropping of fruit in 1943. [476]

The third reason—the third factor is this: that during the early portion of the blooming period, there was rain every day, and the rain, itself, prevented pollination not only in the Natividad area, but in other areas, and as a result the flowers were not pollinated and the young fruit dropped off before it—simply because it was not pollinated. Now, later on, beginning about the 11th of March, there was a very decided change in climate, the records show that. The temperature dropped from——

Mr. Naus: One moment. One moment, please.

(Testimony of Walter E. Packard.)

If he is going to say what the records show, I would ask that the record be produced instead.

Mr. Moore: Well, all right.

Q. Are you referring now to the State or Monterey County?

A. I am referring to the records—the weather records in Salinas.

Q. In Salinas? A. Yes.

Q. I was asking you—you got off of it a little bit, Mr. Packard. I was asking you throughout the State. A. I see.

Q. Not particularly Monterey County.

Mr. Naus: Your Honor understands that I make no objection to weather records. I think they will tell more than the witness could remember about them.

Mr. Moore: I am going to come to that, Mr. Naus, in Monterey County; he hasn't the weather records for the State; he only has [477] them for Monterey County.

Q. Does that cover the general field in regard to the State as a whole?

A. Those are the three primary causes for dropping buds, all associated with weather.

Q. From your studies and the information that you secured in Monterey County, there was a short crop there, was there? A. Yes.

Q. Have you the records showing the crop yields in Monterey County?

A. Yes. Here is the '43 record (handing paper to counsel).

(Testimony of Walter E. Packard.)

Q. Have you other records there?

A. (The witness handed other papers to counsel.)

Mr. Naus: This first one, apparently, was confined to 1938; I thought your question was 1943.

Mr. Moore: Pardon me; you didn't understand me, Mr. Naus. *ere* is '38, '39, '40, '41, '42 and '43.

Mr. Naus: I thought your question was addressed only to '43.

Mr. Moore: I think I asked him if there was a short crop in '43 and you objected.

Mr. Naus: Would your Honor indulge me for a moment until I inquire of Mr. Lewis, the officer, whether these were official. I assume they are. I don't know.

I will accept these reports as proper official reports, if the Court please.

Mr. Moore: Do you want them marked for identification?

Mr. Naus: That is entirely up to you. If you wish to [478] prove them, I make no objection as long as you prove them by the record.

Mr. Moore: All right.

The Court: If there is no question about the records, they might as well be admitted.

Mr. Moore: Might as well be admitted.

(The documents referred to were marked Defendant's Exhibit O in evidence.)

Mr. Moore: Q. Now, Mr. Packard, you have produced the agricultural reports of Monterey County from 1938 to and including 1943?

(Testimony of Walter E. Packard.)

A. Yes.

Q. Which have been marked here as Defendant's Exhibit O? A. Yes.

Q. I will ask you if you have studied those reports? A. Yes.

Q. And can you tell us whether there was a short crop in Monterey County in 1943?

A. Yes.

Mr. Naus: If the Court please, in asking that, he is again calling for secondary evidence of a writing, because by the comparison of one of those reports with another you can see whether a figure is mathematically larger or smaller than another.

Mr. Moore: I have always understood that people who may be experts, like expert accountants, can testify to a summary, and it is open to cross-examination instead of introducing each item. I can introduce them if Mr. Naus persists, each [479] year.

Mr. Naus: They are all in already; any of us can read them. The whole thing is in evidence already. It shows by year the total number of acres in the county, the total number of pounds of yield from them.

The Court: Very well.

Mr. Naus: In a written brief or the like, we could type it out.

The Court: Q. Briefly outline what these records disclose in your own way.

A. These records show that in 1943 there was a lower crop in Monterey County than any of the

(Testimony of Walter E. Packard.)

years of record here. The record in 1938 was 138,540 boxes. In 1939 the record shows production of 180,102 boxes. In 1940 the record shows a yield of 140,325 boxes. The record for '41 shows a yield of 166,800 boxes. The yield for 1942 shows a yield of 204,500 boxes, and for 1943, shows a yield of 90,450 boxes.

Mr. Moore: Q. You have already related the various investigations you have made, both state-wide and in Monterey County. Directing your attention to the investigation that you made in Monterey County that you have outlined, in your opinion as an expert, from those studies that you made and investigations you made, what was the cause of the short crop in Monterey County in 1943?

A. Weather conditions.

Mr. Moore: The same objection—did you want it to that, Mr. Naus? [480]

Mr. Naus: Well, it is addressed to a minor field of the other subject. I assume that was taken up before, and I assume his answer would be the same.

Mr. Moore: Q. Will you explain these weather conditions in Monterey County?

A. Yes. In the spring—in the winter of 1942-43 there was an unusually warm period which brought the cots on earlier than usual that year and extended the blossoming period over a longer period, and also caused a dropping of buds during the early part of—or during the early part of the blooming period. There was also a rain almost continuously from the middle of February until the middle of March.

(Testimony of Walter E. Packard.)

Mr. Moore: Now, we have those weather records, Mr. Naus, if you care for them.

Mr. Naus: That is entirely up to you, what you wish to prove. You are putting in your own case.

Mr. Moore: And you objected. We didn't want any issue with regard to whether——

Mr. Naus: No, I did not. I never objected to them. I only objected to this witness trying to tell from hearsay memory what they read. I stated to his Honor that I would make no objection to official reports. I did object to this witness telling anything he read from reports.

The Court: If you have the reports let us proceed.

Mr. Moore: I have the reports. I don't want to get in [481] an argument over nothing.

The Court: This is '42-43 you want?

The Witness: '43.

Mr. Moore: Q. Haven't you that in book form someplace?

A. No—yes, I have the records scattered—the original records from which I took those, but then they are rather scattered out. I copied these figures from the official records which I have with me. These are, however——

The Court: No objection to them, subject to correction?

Mr. Naus: I will be glad to have them marked for identification and used, with an opportunity to me, however, for study.

Mr. Moore: All right.

(Testimony of Walter E. Packard.)

Mr. Naus: I haven't even seen his memoranda or anything to know that they are truly depicted.

Mr. Moore: He copied them out of the records which are available.

Mr. Naus: Surely; they can be checked.

A. The rainfall records taken at Salinas by the United States Department of Commerce Weather Bureau show rain beginning on February 16, 1943; it rained on the 16th and 17th; then there were three days without rain; then there was continuous rain from the 21st to the 26th; then there were two——

Mr. Naus: What month is he talking about?

Mr. Moore: March. [482]

The Witness: Two days in February——

Mr. Moore: Just a minute. I may be mistaken.

Q. Mr. Packard, will you start at the beginning again? I think you jumped over a month.

The Court: He started in '43. You have the '42 records?

The Witness: I have the record for a number of years, your Honor.

The Court: Covering this period—it begins with '42, doesn't it?

The Witness: Yes.

The Court: Yes. You started with '43.

Mr. Moore: I am asking now as to the weather conditions during the pollinization period. He has those in his hand.

Mr. Naus: Of what year?

Mr. Moore: '43.

(Testimony of Walter E. Packard.)

Mr. Naus: I merely asked for those dates. Was he giving February or March?

Mr. Moore: I have asked him to start over so we will get it clear. Starting in the month of February 1943 in the neighborhood of Salinas——

The Court: May I make a suggestion?

Mr. Moore: Yes.

The Court: This problem has to do with the weather.

Mr. Moore: Yes.

The Court: If it affected it at all, it began before '43. [483]

Mr. Moore: We will go back and get the '42 records.

Mr. Naus: How could it affect the '43 crop? He has answered so far.

Mr. Moore: He said the warm winter affected it; the trees do not force the sap down.

The Court: The growing season would take in '42 and '43.

Mr. Naus: Of buds, yes.

The Court: That is what I mean.

Mr. Moore: Q. What have you there?

A. This is the temperature record. I have both the temperature record and the rainfall record; I have them both.

Mr. Moore: Can't we introduce that subject to Mr. Naus checking it, instead of taking up the time here?

Mr. Naus: I thought so. If you had confined yourself to these records instead of using the wit-

(Testimony of Walter E. Packard.)

ness we would have had a paper marked and passed on.

The Court: Yes; we can get along with this copy.

Mr. Naus: As a matter of fact, I think I have the temperature and rainfall record for February and March 1943, copies of them, right in my hand so I can follow it.

The Court: All right.

Mr. Moore: Q. What have you?

A. I have rainfall records for 1942 and for 1943 and the temperatures from October to December 1942 and January through March 1943.

Q. Are those by months or days?

A. By days and months, of [484] course.

Mr. Moore: Well, pardon me just a moment.

Mr. Naus: Certainly.

Mr. Moore: This is just a great mass of figures.

The Court: He has got it by days and months, he says.

Mr. Naus: I will carry out my understanding with the Court. Any summary that he has made here, I have no objection to its being used, provided time is given to me subsequently to check it without taking up the Court's time. I am unable to look at it and say whether it is wrong or right. I assume he copied it correctly; I don't know. But there are two papers you handed me; I can't even tell what month or year they refer to.

Mr. Moore: If you will just let me go, maybe I can inform you.

(Testimony of Walter E. Packard.)

Q. Mr. Packard, you have handed me one paper with a great mass of figures on it. What does that represent?

A. The paper that I now hold in my hand shows the temperature record taken in Salinas from October to December inclusive in 1942, and from January to March, inclusive, 1943.

Q. Is that by days? A. Yes.

Q. That is the——

A. Maximum and minimum temperatures by days.

Q. You took this—copied it from the official record, is that true? A. Yes. [485]

Mr. Moore: I will ask that that be marked for identification.

The Court: Let it be marked.

(The paper was marked Defendant's Exhibit P for Identification.)

Mr. Moore: Q. You have produced certain papers here that do not have any month on them, having to do with rainfall at Salinas. Can you tell us what those are?

A. The first paper shows the rainfall record for 1942 by days and months.

Q. Pardon me just a moment. This is for 1942 by days and months.

Mr. Naus: Subject to the same understanding.

Mr. Moore: Yes. We will ask that this be marked for identification.

(The paper was marked Defendant's Exhibit Q for Identification.)

(Testimony of Walter E. Packard.)

Mr. Moore: Q. And the one you hand me is what?

A. This is the record of rainfall for 1943 by days and months.

Mr. Moore: I will ask that this be marked for identification.

The Court: Let it be marked.

(The paper was marked Defendant's Exhibit R for Identification.)

Mr. Moore: Q. Now, Mr. Packard—

A. I am looking for the—I have here a record of the clear, partly cloudy, and [486] cloudy days during the months of January, February and March, inclusive, 1943, by days and months.

Q. And that was taken from what records?

A. That was taken from the U. S. Weather Bureau records at Salinas.

Mr. Moore: I will ask that this be marked as an exhibit for identification.

The Court: It may be marked.

Mr. Naus: With the same understanding.

(The document was marked Defendant's Exhibit S for Identification.)

Mr. Moore: Q. Now from a study of these records and other information, or a study of these records—I will put it this way: These records are the basis of your statement that the winter of 1943 was a warm winter, is that correct?

A. That is right; partly the observation—partly it is my own observation of that year, and partly

(Testimony of Walter E. Packard.)

from conversations I have had with people in the county regarding that.

Q. Turning now to the pollinization period of 1943, can you tell us what the rainfall was at Salinas in the latter part of February 1943 up to about the 10th of March, if you will give those figures. Mr. Naus, I believe, has them, by days.

A. There was rain on February 2—or 16th, excuse me; another rain on February 17; then there were three days without rain. It rained continuously from the 21st to the 26th, inclusive. It did not rain then for a period of four days. Then on the 3rd [487] of March it rained continuously until March 11. It then cleared. There was a rain on the 14th; again on the 17th; there was a trace on the 18th, a trace on the 20th, a trace on the 21st, a little rain on the 22nd, and the only other rain was on the 29th of March.

Q. And from a study of these records and from the information that you have gathered, it is your opinion that the short crop in Monterey County in 1943 was due to the weather, is that correct?

A. Yes.

Q. When you arrived there, it was in July 1943—in and about that? A. Yes.

Q. And you visited all of these various ranches that you have named? A. Yes.

Q. And so far as the number of apricots on the trees was concerned—I don't mean by counting them, but I mean so far as whether they were heavily laden or lightly laden with fruit, did you

(Testimony of Walter E. Packard.)

find the same conditions generally existed throughout the county as existed on the Pista ranch, or did you find it different—not getting into percentage, but I mean in a general way were the conditions on the Pista ranch, so far as cots were concerned, similar to those which existed throughout the county?

A. The conditions varied regarding yield in 1943 in the orchards that I visited.

Q. Some were higher than others?

A. Yes.

Q. And some were lower than others?

A. Yes. [488]

Q. And did you check those yields as nearly as you could? A. Yes.

Q. Did you find others in the county that had as low a yield as Pista's? A. Yes.

Q. Some had more, did they?

A. Some had more, and others had less.

Q. Did you find anyone that you came in contact with that said they had a normal yield?

A. No. Well, with this exception: I think Mr. Bardin, or Mrs. Bardin, had what you might call a normal yield. It was 80 percent normal, which is within the range of normal—60 to 80 percent of normal, which I think would be generally considered a rather normal yield.

Q. Did you visit the California Orchard properties? A. Yes.

Q. They have two properties, have they?

A. There are two properties under one manage-

(Testimony of Walter E. Packard.)

ment; one belongs to the company; the other belongs to Mr. Thorpe, who is a stockholder.

Q. How far apart are these two orchards?

A. I can't tell you exactly, but I think within just a short distance.

Q. What do you mean?

A. Perhaps two miles.

Q. And they are located where?

A. Near King City.

The Court: Q. Is King City along the coast?

A. King City is in the valley of the river there, in the same valley that these other ranches are in, except toward the upper end of the valley.

Mr. Moore: Q. Was there any variation in the yield of [489] those two orchards managed by the same people within two miles of each other?

A. Yes.

Q. Approximately what?

A. One of the orchards in the center of the valley yielded about 12 percent of normal, and the other yielded about 40 percent.

Q. And you found that same variation generally throughout the county, did you?

A. Yes, I did.

Q. Did you have occasion to observe the dust on the Pista orchard? A. Yes.

Q. There was dust on the orchard when you observed it, was there? A. Yes.

Q. I am going to ask you—there has been evidence here that the short crop was caused by dust. I am going to ask you from an observation of the

(Testimony of Walter E. Packard.)

trees and the dust and the crop and your knowledge of it, was that dust on there in any way the cause of the short crop?

Mr. Naus: One moment. Objected to as calling for an opinion—presumably calling for an expert opinion in a field in which the witness has not so far been shown to have any knowledge——

Mr. Moore: All right.

Mr. Naus: Please let me finish.

Mr. Moore: Pardon me just a moment. May I interrupt just a moment?

Mr. Naus: No, I would rather you wouldn't. That is what [490] I am trying to stop.

Mr. Moore: I will withdraw the question if you will just let me say so at this stage.

Q. You inspected the orchard, did you?

A. Yes, sir.

Q. Will you describe, so far as the number of apricots were concerned, whether they were on the trees on uniform or un-uniform manner?

A. They were on the trees, so far as the individual trees were concerned, in a uniform manner. I saw no more fruit on the sides of the trees away from the mill than I saw on the trees—on the sides of the trees towards the mill. There was, however, a very distinct difference in the number of apricots on different trees. I observed two or three times as much on some trees as on others.

Q. You mean apricots?

A. Apricots, yes. So there was quite a variation in the trees within the orchard, but I saw no varia-

(Testimony of Walter E. Packard.)

tion of the setting of the fruit on either side of the trees.

Q. By that you mean the fruit that was set on the side towards the plant was as heavy as the fruit set on the side away from the plant?

A. So far as I could see, yes, sir.

Q. You made an observation in that regard, did you? A. Yes.

Q. Let me ask you, referring to this map, from your observation was there more dust on the trees in certain portions of this orchard than in others?

A. Yes.

Q. Will you point out the portion that had the larger amount of [491] dust as distinguished from that that had the smaller or lesser amount of dust?

A. Yes.

Q. You may take a pencil and mark it—if you will label it A showing where the trees were that had the larger amount of dust.

A. Yes, I found more dust apparent on the leaves of the trees and other vegetation in the south—southeastern portion of the ranch in the general vicinity of the house, which I am marking out and indicating by the letter A.

Q. Where did you find the lesser amount of dust?

A. I found the amount of dust rather uniform over the balance of the ranch.

Q. That is the low land down there—is it lower than the balance of the land? I mean, it slants down there?

A. No, but it is protected by hills here, and my

(Testimony of Walter E. Packard.)

feeling is that there may have been in a sense an eddy that may have caused more dropping of dust in this portion of the orchard than in the balance.

Q. Did you observe the trees so far as yield was concerned in that portion that is marked A?

A. Yes.

Q. Where you found a heavier deposit of dust?

A. Yes.

Q. And how did that compare with the yield on the other portion where the dust was lesser but uniform?

A. My observation was that, in general, the trees in that vicinity produced rather more heavily than the average of the orchard.

Q. In other words, the trees where the greater amount of dust [492] was produced more heavily than the balance, is that correct? A. Yes.

Mr. Naus: You have no counterclaim for that, Mr. Moore?

Mr. Moore: Well, it just shows how little dust had to do with this situation. [492-a]

Q. On the leaves, themselves, did you find any evidence of any causticity? A. No, I did not.

Mr. Moore: I am starting on a little different subject. Shall we proceed straight through, or what is your Honor's desire with regard to a recess?

The Court: Only to assist you gentlemen I was pressing it, hoping to get through today.

Mr. Naus: I haven't the slightest idea now how long he is going to have this gentleman on direct.

Mr. Moore: I will have him a half hour.

(Testimony of Walter E. Packard.)

The Court: Counsel is not as young as he used to be. He is asking for a recess. We shall take one.

Mr. Naus: I think we ought to concede that to him under the circumstances.

(Thereupon a brief recess was taken.)

Mr. Naus: We are now going in an enlarged way into botany, I take it?

Mr. Moore: That is it.

Q. Mr. Packard, in your many years in agriculture and the study of it, have you had occasion to study the pollination of plants? A. Yes.

Q. Have you had occasion to study the pollination of apricot plants? A. Yes.

Q. I will hand you a diagram, here, and ask you what this particular diagram represents.

A. That diagram represents a [493] cross section of an apricot blossom.

Mr. Naus: Wait a minute. Let us get this clear. Is it a cross section, or a longitudinal section, Mr. Moore? *It* looks longitudinal to me.

The Witness: Excuse me.

Mr. Naus: Which is it?

The Witness: It is a longitudinal cross section.

Mr. Naus: It is a longitudinal section.

Mr. Moore: Q. Whom was that prepared by?

A. By me. I prepared this from a bulletin of the University of California.

Q. And enlarged it? A. Yes.

Mr. Moore: We will ask that this be marked as an exhibit.

(Testimony of Walter E. Packard.)

Mr. Naus: If you will simply tell what you copied it from I will not question it.

Mr. Moore: Q. What did you copy it from, Mr. Packard?

Mr. Naus: Whose illustration, and what bulletin?

The Witness: If you will wait just a second, I have it here.

(The document in question was received in evidence and marked Defendant's Exhibit T.)

The Witness: It was taken from page 5 of Circular No. 62 on the subject of "Pollination of Deciduous Fruits, By Bees."

Mr. Naus: I ask that it be marked for identification. I will make no objection to the exhibit which you have just previously offered. [494]

(The document in question was marked Plaintiffs' Exhibit 17 For Identification.)

Mr. Moore: Q. Mr. Packard, taking this diagram, Exhibit T, would you explain the process of pollination? You might turn it so that his Honor can see it.

A. Pollination takes place by having the pollen, which is released by these anthers on the stamens, which is carried over onto the stigma of the pistil. There it comes in contact with a sugary, viscous material, fluid, that is excreted by the papillae on the surface of the stigma. When it comes in contact with this viscous material it begins to absorb moisture from it, it begins to swell, and then a por-

(Testimony of Walter E. Packard.)

tion of the outer coating breaks and the filament starts to grow, which extends down the style of the flower until it reaches the ovary here, where fertilization takes place, and that, in general, is the process of fertilization.

Q. There has been some reference here to self-pollinization of the apricot. Just what is meant by that, or how does that occur?

A. The apricot is almost wholly self-pollinated. By that I mean the pollen from the stamens in the flower, itself, pollinate the pistil in the same flower. There is very little cross pollination from one tree to another. That is carried out in part prior to the opening of the flower and partly after the flower has opened up. During the earlier period of the flowering of the apricot blossom the pistil is not as long as shown in this picture. It does not extend above the stamens. [495] The stamens, however, develop pollen which is ripened before the stigma on the pistil is finally receptive. The pistil then pushes up through the stamens, at which time there is a possibility that there may be pollination there. However, most of the pollination of the apricot blossom is carried out by the aid of insects, largely bees and thrip insects and other insects which get into the flower and carry the pollen from the stamens to the stigma.

Mr. Naus: Do you remember the question? You only asked him what self-pollination was.

Mr. Moore: He has explained.

Mr. Naus: No, he is going on.

(Testimony of Walter E. Packard.)

Mr. Moore: It comes from the same blossom.

Mr. Naus: I just wondered if he remembered the question.

Mr. Moore: Yes, he did.

Q. You are speaking about self-pollination now, are you not? A. Yes, and I have finished.

Q. On the stigma, what relation in size does the ordinary pollen bear to the stigma?

A. The ordinary pollen is very minute. One flower may produce several thousand particles of pollen. The stigma of the pistil is, roughly, about the size of a pinhead, or in diameter perhaps would be a millimeter in diameter, about the size of a pinhead.

Q. How many pollens does it take to fertilize that? A. Just one.

Q. In other words, when just one pollen—which is a very [496] minute microscopic object, is that correct? A. Yes.

Q. —drops on this stigma, which perhaps is as large as a pinhead, fertilization takes place, is that correct? A. Yes.

Q. Have you had any occasion to make a study or read articles written by others with respect to the effect of Bordeaux mixture spray on orchards?

A. Yes.

Q. In the course of your studies in botany you have made some study of chemistry, have you?

A. Yes.

Q. I mean you know calcium carbonate and calcium oxide, dioxide? A. Yes.

(Testimony of Walter E. Packard.)

Q. What is Bordeaux mixture composed of, do you know?

A. Yes, it is a mixture of calcium hydroxide and copper sulphate.

Q. Do you know whether or not calcium hydroxide is at all caustic?

A. Yes, it is caustic.

Q. Do you know whether calcium carbonate is caustic or not?

A. It is not.

Q. But the calcium that is in the Bordeaux mixture is caustic, is that correct?

A. Yes.

Q. What effect, if any, does caustic material landing on the stigma have?

A. Castic material landing on the stigma would neutralize the acid reaction of the stigma.

Q. Would it affect fertilization?

A. Yes, if the area that is affected by the calcium hydroxide comes in contact with the pollen. If the pollen drops on a portion of the stigma that is not affected, of course, there would be no effect at all. [497]

Q. It is the killing of the pollen, is it, or the killing of the stigma and this watery substance? Which is it?

A. It is the killing of the pollen.

Q. In connection with the use of Bordeaux mixture, have you had occasion to study or read certain articles?

A. Yes.

Q. There has been introduced in evidence here an article by Mr. Anderson. I call your attention to the article which has been introduced in evidence

(Testimony of Walter E. Packard.)

as Plaintiff's Exhibit 8, by Paul J. Anderson. Have you read that? A. Yes.

Q. You have studied it, have you, and you know the contents of it? A. I do.

Q. I will not ask you if you have ever had occasion to read an article by Mr. MacDaniels and Mr. Hildebrand, of Cornell University and American Society of Horticulture, on the results of studies——

Mr. Naus: Show it to him.

Mr. Moore: Q. You have read and studied this particular article, have you? A. Yes.

Q. Do you know the contents thereof?

A. Yes.

Q. That article contains studies in regard to the effect of Bordeaux mixture on pollinization?

A. Yes.

Mr. Moore: I will ask that this be marked with the appropriate number.

(The document was marked Defendant's Exhibit U in evidence.)

DEFENDANTS' EXHIBIT U

The investigation of the effect of fungicides and bactericides applied to the open blossoms on the set of fruit of the apple was begun in 1929 and has been carried on in every year since. The results of much of this research have appeared in a series of publications as indicated in the bibliography attached. The present report includes the results obtained during the years from 1934 to 1937 inclusive.

(Testimony of Walter E. Packard.)

The authors are of the opinion that the problem during this time has been fairly well worked through in its essential features, at least as far as the practical implications are concerned.

Discussion and Conclusions

On the basis of the data obtained in this investigation, it can be stated with some assurance that from a practical standpoint it is possible to spray or dust apple trees while in bloom with the various bactericides tried without seriously cutting down the set of fruit. This is particularly true of Bordeaux mixture 1—3—50 and the 20—80 copper-lime dust which have been tested thoroughly under orchard conditions.

Mr. Moore: Q. I will hand you another article published by [498] the University of California, College of Agriculture, Agricultural Experiment Station, Berkeley, California, "Monilia Blossom Blight (Brown Rot) of Apricots." I call your attention to pages 40 and 41 thereof relative to the effect of Bordeaux mixture on blossoming. Have you read that article? A. Yes.

Q. Are you familiar with the contents of it?

A. Yes.

Mr. Moore: I will ask that that be admitted in evidence.

(The document in question was thereupon received in evidence and marked Defendant's Exhibit V.)

(Testimony of Walter E. Packard.)

DEFENDANT'S EXHIBIT V

There is no danger of burning either the buds or the blossoms of the apricot with a properly made Bordeaux. As many as five applications of Bordeaux 8-8-50 were tried experimentally to large blocks of trees in the H. Owen orchard at Haywards in 1923 without injury of any kind. The fruit at harvest was large, abundant and of excellent quality. In 1922 Mr. C. Frost of Berryessa sprayed four times with Bordeaux 5-5-50 starting in the red bud stage and ending in the full bloom. The year was damp, and in the same vicinity the disease was very destructive. Yet in a block of 38 trees, typical of Mr. Frost's orchard, the average number of infections was 1. In one corner of the orchard where the disease offered its greatest resistance to control the average number of infections per tree in a block of 34 trees was only 13.

Bordeaux applied to the open blossoms does not interfere with pollination which probably takes place in the case of the apricot before the blossoms open. Experiments with new fungicides frequently led to the burning of the outer portions of the buds to such an extent that they never opened. Yet when the burning had not killed the reproductive parts within, these buds set fruit which eventually burst through the old, unopened flower parts.

(Testimony of Walter E. Packard.)

Mr. Moore: Q. I will hand you a typewritten article, "The Influence of Cement Dust on Vegetation."

Mr. Naus: If it is a typewritten article, you are getting into another field. I can typewrite one—in fact, I will.

Mr. Moore: Q. It is written by Professor R. Ewert. Do you know who Professor Ewert is?

A. Yes.

Q. Who is he?

A. He is a German scientist who has made a study of various subjects, including the effect of cement dust on vegetation.

Q. Has he written any number of articles on subjects of that character?

A. Yes, he is quite a distinguished German scientist.

Q. You did not answer my direct question. Has he written quite a number of articles?

A. Yes.

Q. On various subjects connected with that, kindred subjects, I mean? A. Yes.

Q. Have those articles been published, do you know, in scientific [499] magazines in this country?

A. Yes. Reviews of them have been.

Q. He is quite well known by reputation in the profession, is he? A. Yes.

Q. And have you read that article that has to do with the effect of cement dust on agriculture?

A. Yes.

Mr. Moore: I will ask that that be marked.

(Testimony of Walter E. Packard.)

Mr. Naus: I object to this last typewritten document on the ground it does not appear that it has ever been published in the world in the sense of the other articles and subjected to any widespread criticism or any criticism at all. The circumstances of the typewriting and the occasion have not been shown and therefore it is unsworn hearsay.

Mr. Moore: We will ask that it be marked for identification, anyhow, since he has studied that particular article.

The Court: It may be admitted for purposes of identification.

(The document was marked Defendant's Exhibit W For Identification.)

Mr. Moore: Q. From your studies and from your readings, from your observation of the trees on the Pista ranch that you have already described in evidence—I mean the location of the fruit—from your studies of the causes of the crop failure throughout the State in 1943, and your studies relative to the crop failure in Monterey County in 1943, and your knowledge of botany and the explanation of the method of pollination that [500] takes place in an apricot as you pointed out on Defendant's Exhibit T, I ask you in your opinion as an expert did any dust that was located on the Pista orchard have anything to do with the short or failure of the crop in that orchard in the year 1943?

Mr. Naus: Objected to upon the grounds, first, that it calls for an opinion that is based in part

(Testimony of Walter E. Packard.)

upon the hearsay mentioned in the previous objection, to wit, conversations that he held with laymen; secondly, that it calls for unsworn hearsay or statements from some German who finally produced something in typewriting, and to the extent that it is based in part upon either of the matters that I mentioned in the two grounds, it calls for hearsay and an improperly founded opinion.

Mr. Moore: I have outlined his entire studies, your Honor, and Mr. Naus picks up one or two and says they are hearsay. I submit this man is qualified as an expert. His observations, his studies, his knowledge, his readings on all these subjects qualify him as an expert to render his opinion to this court whether or not any of the failure of the crop that appeared on the Pista ranch in 1943 was in any way attributable to the cement.

The Court: The objection will be overruled. You may answer.

A. No, in my opinion dust had nothing to do with the small crop on the Pista orchard in 1943.

Q. What, in your opinion, was the cause of it?

A. In my opinion the three causes which I spoke of before were all a factor on the Pista orchard: One of them being the effect of the warm [501] winter and the dropping of buds, second, the effect of the rain upon pollination, and, third, the effect of disease brought about the warm wet weather during the blossoming period.

Q. Mr. Packard, have you any records as to

(Testimony of Walter E. Packard.)

what the average sales price of fruit was throughout the State of California in 1943? A. Yes.

Q. What record is that?

A. There is a record prepared by Mr. R. E. Blair, agricultural statistician of the California Crop and Live Stock Reporting Service of the United States Department of Agriculture, and the State of California, cooperating.

Mr. Moore: I will ask that this be marked for identification.

Mr. Naus: Merely for identification, I take it.

(The document was marked Defendant's Exhibit X For Identification.)

Mr. Moore: I will offer it in evidence.

Mr. Naus: If the Court please, objected to as an offer of hearsay. An inspection of the document will show that it is not an official report, at all, but is simply a letter that some gentleman has written to Mr. Packard September 9, 1944, and therefore is nothing but hearsay.

Mr. Moore: I think it is admissible, your Honor. However, if necessary I will withdraw the offer for admission and offer it for identification and have Mr. Blair come down here to identify these figures, if necessary. It is from the United [502] States Department of Agriculture and from the State of California Department of Agriculture, an official organization, signed by R. E. Blair, Agricultural Statistician. Now, if Mr. Naus forces me to bring this gentleman down from Sacramento——

(Testimony of Walter E. Packard.)

Mr. Naus: I am not forcing you to do anything, Mr. Moore. As a matter of fact, he starts out his letter by saying, if the Court please—here is a Mr. Blair writing to Mr. Packard——

“Dear Mr. Packard:

“Pursuant to our conversation of September 8th, I found there is no government publication,” and so forth and so on. Please. I am addressing his Honor.

Mr. Moore: Oh, go away.

Mr. Naus: Please, please. Then he proceeds to state some hearsay to him, and, if the Court please, it has to do with the statewide average simply by year—the whole State, all regions—and has nothing to do with any particular region or with the market at any particular time.

Mr. Moore: We propose to show, your Honor, and if necessary we will bring Mr. Blair down here, that the general price for fresh apricots throughout the State was \$132 a ton; that Mr. Pista, for his fruit, as shown by his deposition, got \$152 a ton, because there was some evidence offered here to show that he was getting a lower price for his fruit, and so far as his dried fruit was concerned he got \$108 a ton, while the average price was \$116. In other words, the average price was slightly [503] higher, and we expect to prove likewise the reason why his dried fruit drew a lesser price was not dust, but was green mold coming from the tray boxes where it was dried. I will

(Testimony of Walter E. Packard.)

re-offer it for identification and I will ask Mr. Packard this question:

Q. From a study of that information can you tell us what the average price throughout the State was for fresh fruit in the year 1943?

Mr. Naus: Objected to upon the following grounds: No. 1, it calls upon a witness to give the price of apricots in a particular year with no foundation to show that he had any personal familiarity with the market; and secondly, in so far as he is asked to look at an exhibit for identification and say what it shows, the question in that form calls upon him to give hearsay.

Mr. Moore: I submit it, your Honor.

The Court: Q. Do you know of your own knowledge the price? A. Yes, sir.

Mr. Moore: Q. How do you know it of your own knowledge, Mr. Packard?

A. I took a box of the apricots from Mr. Pista's orchard and went to canning companies, asking what price they might pay for those cots.

Q. Where did you get those cots?

A. From Mr. Pista.

Q. What price did they tell you they would pay for those cots?

Mr. Naus: One moment. Objected to as calling for hearsay, and upon the further ground taking one box, walking around, and [504] holding conversations does not establish any market.

The Court: It does not establish a market, but it goes to the weight of the testimony. I will allow it.

(Testimony of Walter E. Packard.)

Mr. Moore: Q. What was the price offered?

A. The price that the cannery in Gilroy said they would pay was \$110, which was approximately \$10 above the ceiling. At that time I went through the cannery and saw the class of cots that were being canned, and in my judgment the apricots I brought there in that lug box were much superior to the average run of the cannery that I saw while I was there.

Q. Did you have occasion at the time of the harvesting season to observe the drying of Mr. Pista's fruit, that portion that was dried? A. Yes.

Q. Will you describe the drying trays and the manner in which it was dried?

A. Yes. The cots were dried just the same as they are dried on other ranches. The fruit was cut, placed on trays, the trays were placed in the open. They were later sulphured and put in the open, piled up for curing. The same process occurred on other properties, so far as I could see. I saw these trays of cots being dried in the field. I observed them rather carefully, and I found that there was quite an infection of a green mold on the cots that destroyed a good many, which Mr. Pista threw away. I did not see the dried cots being sold, but I assume that some of his green mold, the cots carrying the green mold were carried over into the portion [505] of the crop that was offered for sale.

Q. Did you take any samples of those cots covered with green mold? A. Yes.

(Testimony of Walter E. Packard.)

Q. Have you that sample? A. Yes.

Q. Will you produce it?

(The witness handed object to Mr. Moore.)

Q. I will hand you this envelope with the cots in it. Are those taken from the drying trays of Mr. Pista by yourself in the harvesting season of 1943? A. Yes.

Q. Are those the ones that you referred to a moment ago? A. Yes.

Q. Will you take two or three out of there that have this mold on them?

(The witness did as requested.)

Q. You have handed me three cots. Can you identify the mold so that it can be distinguished? Point it out.

A. Yes, the green mold covering over the cots.

Mr. Moore: We will offer these three in evidence.

(The apricots in question were marked Defendant's Exhibit Y in evidence.)

Mr. Moore: Q. Mr. Packard, what causes this green mold, if you know?

A. This green mold was caused by a fungus that is quite common on apricot trays.

Q. Is there any preventive for it?

A. Well, there is no preventive, but the trays should be thoroughly washed with hot water in order to have the trays free from this mold and from the [506] spores that cause it.

Q. That was before the drying season?

A. Yes.

(Testimony of Walter E. Packard.)

Q. And if the trays are properly washed would it prevent the green mold? A. Yes.

Q. In other words, the green mold is the result of——

Mr. Naus: Who is testifying now?

Mr. Moore: Just a minute. Will you read that last question?

(Record read.)

Mr. Moore: Q. —of the improper washing of the trays, is it?

The Court: You may state whether or not it is.

A. It was due to the fact that the trays were not washed, I think; that is as far as I know.

Mr. Moore: Q. Mr. Packard, there has been introduced here in evidence the Anderson report. You have examined that, have you? A. Yes.

Q. In that report which has been offered but not read, Mr. Anderson, by a series of Experiments, reaches the conclusion that calcium is a caustic agent and that it will cause the prevention of pollination, and in that he quotes from an earlier article by Prof. Beech, which in turn says, or is to the effect that Bordeaux mixture will likewise prevent pollination, the use of it. I will ask you as an expert, do you agree with that particular article in all respects? A. No. [507]

Q. Will you point out wherein your disagree?

A. I disagree with the Anderson article in that it draws conclusions from one series of observations during one year when other evidence by other scientists contradict the conclusions that are drawn by Mr. Anderson. In the article Mr. Anderson

(Testimony of Walter E. Packard.)

does not state all the conditions that surrounded this particular observation in the field. His laboratory studies are very definite, and I think they were right without doubt: that pollen placed in an alkaline solution will be killed. But I do not believe that dust blowing from a mill, such as the mill of the Permanente Metals Corporation, blowing, as it does, in the Natividad area, will have any effect, whatever, on pollination. The experiment here could be compared, I think, quite well with one of the series of observations made by other professors of Cornell University where in some cases the trees that were sprayed yielded more fruit than trees that were not sprayed, and in other cases less. Their conclusion over a much wider experiment with Bordeaux spray and other materials is that you can draw no conclusion whatever regarding this.

Q. What do you mean by "this"?

A. What is that?

Q. You said you could draw no conclusion whatsoever regarding "this".

A. That the spraying of orchards during the blooming period would reduce the setting of fruit.

Q. You referred to other articles by Cornell professors on the same subject. A. Yes.

Q. Are you referring to this Defendant's Exhibit U by L. H. MacDaniel and E. L. Hildebrand, of Cornell University? A. Yes.

Q. Is that earlier or later than the——

A. Later.

(Testimony of Walter E. Packard.)

Q. Do you know whether or not it makes any comment on that particular experiment there, or not?

A. I think it does. I am not sure.

Q. I do not know, either.

A. I do not recall that it does.

Q. Calling your attention to the article published by the University of California, can you state what result that reached as compared with the experiment conducted by Mr. Anderson?

A. The conclusion here is contrary to the conclusion reached by Mr. Anderson.

Q. You said the laboratory test Mr. Anderson made. Just what do you mean by that? Will you explain?

A. Yes, he took some pollen grains and put them in a solution that was known to be alkaline and they did not germinate. Other pollen grains were put in a normal acid solution similar to the viscous material on the stigma of the flower and they did germinate, and he rightly draws the conclusion that if the solution in which the pollen falls becomes alkaline, that the pollen will not germinate.

Q. Do you think there is any distinction between a laboratory test and a field test?

A. Yes.

Q. In what respect?

A. There are a number of respects in which they are different. In the first place, it is very unlikely [509] indeed that any spraying or any dust coming from a plant would light on the very small area of a pistil in sufficient quantity to cause all

(Testimony of Walter E. Packard.)

of the viscous material on the stigma to become alkaline and therefore kill all the pollen grains that might have fallen on it. In addition, the surface of the stigma is not smooth and shiny. It is rough. There are papillae, little branches which are formed all over the surface of the pistil, and the pollen grain in a sense falls down into the interstices between these papillae and are protected by them. Scientists have found it is rather difficult under those circumstances to get caustic materials into that area so that it will cause the droppings of the bloom if they want it to drop.

Q. In other words, the two conditions are entirely dissimilar, is that it?

A. Yes. Another point is, of course—well, I have finished. [510]

Q. In your opinion would you say that the Anderson opinion would be applicable to the conditions that existed at Permanente and the Pista ranch?

A. Judging from the description and the facts presented in the Anderson report, I would say No, that they were not wholly similar.

Q. What conclusions did you reach from your observation of the fact that the dust on the trees on the Pista ranch and the yield with respect to the trees, whether it was heavier or lighter on the side towards the plant or away from the plant? I believe you testified they were equal. What conclusion did you draw from that relative to the effect, if any, from the dust?

(Testimony of Walter E. Packard.)

A. In Mr. Anderson's report he recites the fact that under those conditions there was a lighter setting of fruit on the side of the trees toward the mill, which got the direct blast of the dust and wind from the mill. I tried to find out—I observed the trees on the Pista orchard and also on the Anderson orchard to find out whether or not I could see any difference in the setting of trees on the different sides of the tree and I was unable to find the same condition in either of those orchards that Mr. Anderson reports there.

Mr. Ewert in his report and study says that he does not understand the Anderson conclusion, but assumes that perhaps in that case, because the volume of the dust was so much greater than reported in other experiments, the stigma may have been covered completely and there was a chemical [511] interference with the falling of the pollen.

At least I have this surmise, that perhaps during the pollinating period in that experiment there may have been a driving rain that occurred in that same direction, because there was a prevailing wind, and that driving rain caused a condition that was somewhat similar to the condition that caused the dropping of the buds in the Pista orchard in 1943, and that that may have been the cause of the dropping of buds on that side rather than the dust.

Q. I am going to phrase it again, if you will. Did the fact that the yield on both sides of the trees was approximately equal at the Pista ranch, and there was not a lesser amount on the side toward the

(Testimony of Walter E. Packard.)

plant than on the other side, did that indicate to you in any way, or is it your opinion that that indicates that the loss of yield was not due to the dust?

A. Yes, that is one of the indications.

Q. The fact that the trees that were more heavily dusted than the others had a better yield, does that have any indication to you as to whether or not the dust had any effect on the Pista orchard?

A. Yes.

Q. What does it—

A. It indicates that since the trees that were in the area that did receive somewhat more dust than trees in other areas, and produced more fruit than those other trees that received less dust, that it was not a factor; I found no relation between the presence of dust and the yield, [512] and he observed the same thing that Mr. Lewis did, that the third blooming did set. It set under the same conditions of dust, but the climatic conditions during that period were very, very different, and I drew the conclusion that it was the change of climate that enabled the trees to set fruit rather than any change in the dust condition, since there was no change.

Q. Were you there during the pollination period in 1944? A. Yes.

Q. Was there any dust at that time?

A. Yes.

Q. Of course, you were not there during 1943 during the pollination period, so you can't compare the amount of it, can you? A. No, sir.

Q. But there was some dust? A. Yes.

(Testimony of Walter E. Packard.)

Q. During the pollination period did you observe the blossoms, the settling of the dust and its effect upon the blossoms with respect to pollination?

A. I observed the conditions. I saw no effect of dust on the blossoms at all this year.

Q. You went there for that purpose, did you?

A. Yes.

Q. You did see dust there? A. Yes.

Q. But you saw no effect of it on the fertilization or pollination of these cots in 1944, in that correct?

A. Well, neither I nor anyone else could see the effect of dust on the tree, but I observed the general condition of the tree and drew the conclusion that there was no effect. Nobody could look at the blossom and see the dust and say this or that [513] effect, but observing that orchard in general I could see no effect that might have resulted from the dust.

Q. Did you observe the blossoming? Was it a scanty blossoming, a full blossoming, or how could you describe it?

A. The blossoming covered quite a long period. It covered a period of nearly three weeks, as I recall it.

Q. I am talking about 1944 now.

A. Yes, it covered a rather long period, and the trees therefore showed some bloom, during the very beginning of March, the early part of March. Then it gradually got more and more, and perhaps the fuller bloom came along about the 17th of March, and still some days after that there were

(Testimony of Walter E. Packard.)

still blooms coming out on the trees in the Pista orchard.

Q. Did you notice any dropping of little cots in the 1944 season—I mean at the time of the pollination?

A. No, I did not. I saw there was a very pronounced dropping of leaf buds due to a warm winter this past winter, but I did not observe and dropping of the fruit buds.

Q. When did you visit the orchard again after the pollination period?

A. I visited in April, again in May, and again in June.

Q. In the month of May I visited the orchard with you, did I not? A. Yes.

Q. What was the condition of the trees on the date on which we visited the orchard?

A. The trees were producing cots. The [514] cots were then growing on the tree. They were small, a little bit larger than a marble.

Q. Were they heavily laden? A. Very.

Q. Did you notice whether any of the trees had been thinned out? A. Yes.

Q. Were quite a number of them thinned out?

A. Yes.

Q. Did you take a fairly representative tree to determine the extent of the thinning out on that tree? A. Yes.

Q. Will you describe what you found?

A. I took a tree near the house, and I counted the number of cots that were on the ground under

(Testimony of Walter E. Packard.)

that tree in a pie-shaped area representing one-eighth, as nearly as I could judge, of the entire area under the tree. I tried to pick a representative area, although the cots on the ground seemed to be rather evenly distributed, and in that one-eighth we picked up 802 cots, which is 6,400 cots per tree, or a yield of about 20 tons per acre based on an acreage basis that we found on the ground under that tree.

Q. The other trees were laden the same, is that correct?

A. No, some had more, I should have judged, and others had less. There were some trees that were not thinned.

Q. From your observation, then, probably the 1944 crop was so heavy that they had to thin it out perhaps to the extent of 20 tons, is that correct?

A. Oh, I should judge that they thinned it out to an extent of considerably in excess of 20 tons potentially. That was 20 tons for one tree. If those 6,400 [515] cots had remained on the tree and had developed into cots of 12 to a pound, those cots would have weighed about 20 tons.

Q. In other words, the orchard required that amount of thinning because of the heavy yield?

A. Yes. Many branches broke off because of the heavy crop, because they were not thinned enough.

Q. Did that yield indicate to you in any way whether this dust had any effect on the trees so far as their yield was concerned?

A. Yes, it did. It indicated that the dust that was present this year had no effect whatever, no more than it did last year.

(Testimony of Walter E. Packard.)

Mr. Moore: I think that is all, your Honor, at this time.

Mr. Naus: Shall I proceed now?

The Court: Is there no hope of getting through with this witness tonight?

Mr. Naus: I do not see how, if we kept on now, we could do it before an hour and a half to two hours.

The Court: What other witnesses have you?

Mr. Moore: That concludes our witnesses, your Honor.

Mr. Naus: I will have two and perhaps—I say only perhaps—three short witnesses.

The Court: Would we be able to conclude tomorrow morning or, in any event, tomorrow?

Mr. Naus: We might conclude in the morning, certainly tomorrow.

The Court: We will put the matter over to tomorrow.

(Thereupon an adjournment was taken until tomorrow, Thursday, September 21, 1944, at 10:00 a.m.) [516]

Thursday, September 21, 1944,
10:00 o'clock a.m.

The Court: You may proceed, Counsel.

Mr. Moore: At yesterday's hearing, your Honor, various statistical data was introduced, various exhibits offered which were marked for identification

rather than in evidence. With respect to Exhibit N, which is deciduous fruits statistics from the University of California, an entire book was marked Exhibit N for identification. The page that we are offering, to get the record clear, is page 42 of that particular record.

The temperature record and various other rain-fall and weather records were marked for identification because Mr. Naus stated that he wanted an opportunity to check them. I just spoke to him and he said he had not had an opportunity yet to check them, and I want to give him that opportunity, but I do not want by any error to overlook offering those in evidence. The reason I am not making the offer at this particular time is because of Mr. Naus' statement that he desired to check them.

Mr. Naus: As to the weather records, if the Court please, I told Mr. Moore I had not had a chance to examine them. They were in the custody of the clerk. I might say after the adjournment of court yesterday, some little time afterwards, it appeared it might be well for me to withdraw some exhibits and look at them overnight. Mr. Welsh, when I made the request [517] of him, said you had left, and I thought it best not to withdraw any exhibits in your absence, and without your permission. I did not withdraw them for that reason.

Page 42 of Exhibit N, that statistical record, needs no examination from me. I would suggest that you have the witness, or someone—presumably the witness—lay a slight foundation by saying who put the pencil handwriting and who put the ink

handwriting on that mimeographed page. So far as the mimeographed matter is concerned, I make no objection, but I would like to identify the source of that.

Mr. Moore: Surely.

WALTER E. PACKARD,
recalled;

Direct Examination (resumed)

Mr. Moore: Q. Mr. Packard, calling your attention to the penciled memorandum on this mimeographed record, in whose handwriting is it?

Mr. Naus: That is page 42.

Mr. Moore: That is page 42.

Mr. Naus: Exhibit N.

The Witness: That is mine.

Mr. Naus: There is some ink writing, too.

Mr. Moore: Q. And the ink writing is in your handwriting? A. Yes.

Q. From what source did you get the ink writing?

A. I got it [518] from two sources, both reports of the State Department of Agriculture, one giving the acreage and the other giving the yield.

Mr. Moore: I offer it in evidence.

Mr. Naus: Page 42 of Exhibit N, is that correct, Mr. Clerk?

Mr. Moore: That is correct.

(Page 42 of Exhibit N was received in evidence and marked Defendant's Exhibit N-1.)

DEFENDANT'S EXHIBIT N-1

University of California, College of Agriculture
Agricultural Experiment Station, Berkeley, January, 1943

DECIDUOUS FRUIT STATISTICS

APRICOTS

File 41216
11.7122

Table 1. Washington and Utah Production and California Production, Yield, Acreage, and Farm Value of Apricots, 1919-1942.

Crop year	Production			California			
	Utah	Wash. ²	Calif. ²	Yield per bearing acre	Bearing acreage ³	Farm ¹ value of crop	
						Price to growers per ton	Total returns to growers
	1	2	3	4	5	6	7
							1,000 Dollars
		Short tons		Tons	Acres	Dollars	
1919	4	4	170,000	3.7	46,100	87	14,790
1920			107,000	2.2	47,907	87	9,309
1921			97,000	1.7	56,407	56	5,432
1922			160,000	2.6	60,754	76	12,160
1923			209,000	3.4	62,287	31	6,479
1924			136,000	2.1	64,189	52	7,072
1925			149,000	2.2	66,855	61	9,089
1926			173,000	2.4	72,107	68	11,764
1927		1,700	206,000	2.6	79,260	57	11,742
1928		4,300	173,000	2.1	82,703	51	8,823
1929	1,900	6,500	212,000	2.6	82,136	64	13,568
1930	800	3,600	194,000 warm*	2.4	81,448	39	7,215
1931	1,000	6,000	274,000	3.4	80,543	29	7,830
1932	1,750	4,800	266,000	3.3	81,534	18	4,554
1933	800	2,300	268,000	3.4	79,596	30	8,040
1934	3,400	11,300	139,000 warm*	1.8	78,795	54	7,506
1935	1,700	9,800	216,000	2.7	80,000	46	9,936
1936	1,800	7,200	248,000	3.4	73,773	38	9,424
1937	1,650	11,800	311,000 cold*	4.2	74,756	37	11,507
1938	4,900	14,500	166,000	2.3	73,571	35	5,810
1939	5,200	14,300	312,000 cold*	4.3	73,319	33	10,032
1940	7,800	16,300	103,000 warm*	1.5	70,881	53	5,459
1941	1,300	14,600	198,000	2.9	69,257	45	8,910
1942	3,100	17,100	204,000	3.0	68,500	69	13,731
			80,000 warm*	1.16*	68,528*		
				67.36*			
				10*			

¹ Returns for naked fruit at growers' first delivery point.

² Includes unharvested tonnage: California—1930, 9,000; 1931, 4,000; 1932, 13,000; 1939, 8,000; and 1942, 5,000. Washington—1934, 200; 1935, 1,200; and 1938, 2,200.

³ Nonbearing acres: 1936, 4,836; 1937, 5,044; 1938, 5,388; 1939, 5,052; 1940, 4,732; and 1941, 3,932.

⁴ Leaders indicate data not available.

⁵ Preliminary estimates.

Sources of data: Compiled by S. W. Shear, Giannini Foundation of Agricultural Economics, University of California, from latest reports of the United States and California Crop Reporting Services, except cols. 4 and 7 calculated.

[Printer's Note]: * In longhand.

[Endorsed]: Filed 9-21-44.

(Testimony of Walter E. Packard.)

Mr. Moore: The other is marked for identification, and the balance of the offer that was marked for identification I will withhold.

Mr. Naus: So far as the weather records are concerned, I have no objection to the weather records being received in evidence subject to my checking it subsequently and calling any proper correction or necessary correction to your attention and to his Honor's. If I had examined it overnight I would have done it, but even if it is received in evidence I could still correct it.

The Court: Let it go in subject to any correction he desires to make.

Mr. Naus: I take it, if the Court please—I do not want to anticipate anything—but I take it, in view of the nature of the case and the issues involved, perhaps your Honor will want briefs from counsel. If it turns out that way, if it is to be briefed, then in the course of the briefing I could telephone Mr. Moore or your Honor about corrections, if any be needed. [519]

Mr. Moore: No further questions.

Cross-Examination

Mr. Naus: Q. Mr. Packard, as I understand it from your testimony, your original entry into the agricultural field as a trained man was in Iowa?

A. Yes, sir.

Q. Did you have any personal or first-hand experience with apricots in Iowa? A. No, sir.

Q. And then you came to California and studied

(Testimony of Walter E. Packard.)

at the University of California in the agricultural branch? A. Yes.

Q. In the course of that study, did you make any personal study of apricots beyond reading books? A. No.

Q. Then the next ten years you were superintendent of an Imperial Valley Experiment Farm, is that correct? A. Yes.

Q. What years of the calendar were those?

A. Those were 1910 to 1917 and the other three years I was in the extension service.

Q. Now, the seven years on the experiment farm, were there any apricots down in the Imperial Valley Experiment Farm? A. Yes.

Q. Were they in commercial bearing?

A. We had several varieties. We were trying it. They were not commercial plantings—no commercial plantings on the experimental farm.

Q. Then in that seven years, I take it, you had no first-hand experience in the commercial production of apricots? A. That is right.

Q. Then the next three years following those seven were spent [520] where?

A. Part of it in France, part of it in Harvard University, and part of it in California.

Q. In those three years did you have any first-hand or personal experience in the commercial production of apricots? A. No, sir.

Q. Or the observation of the commercial production at first hand? A. Yes.

Q. When and where?

(Testimony of Walter E. Packard.)

A. In the San Joaquin Valley. I was in charge of a land settlement project there, and some of the settlers had apricots growing, and I was in general their adviser on problems of raising the crops that they were raising.

Q. In those three years of land settlement project were any of the apricot trees in commercial bearing? A. No, sir, they were not.

Q. They were just little home trees?

A. No, they were commercial orchards but they were just planted. They were not in bearing.

Q. Then you were next where?

A. I was next serving as a consultant for various agencies in California and in Mexico.

Q. Down in Mexico did you have any first hand or personal experience with the commercial production of apricots? A. No, sir.

Q. And the occasional intermissions of the Mexico experience when you were in California, did you have any first-hand or personal observation of the commercial production of apricots?

A. Yes, sir.

Q. When and where?

A. I was handling the property that had been [521] taken over by mortgage by one of the insurance companies, and that included one apricot orchard of about twenty acres or so—about twenty acres as I recall it—in Riverside County.

Q. That was a sort of a business management, was it? A. Yes.

Q. For how long?

(Testimony of Walter E. Packard.)

A. For a period of two years.

Q. How many acres of apricots, did you say?

A. I think about 20, as I recall it.

Q. Were they in commercial production?

A. Yes.

Q. What was the period of blossom time down in Riverside County of apricots?

A. It varied as it does in other parts of the State, but in general it was the first part of March.

Q. From when to when?

A. Generally, from the 1st of March until the 15th of March.

Q. Over about two weeks?

A. Yes, on the average; some years longer and some years—two to three weeks would cover the blooming period.

Q. What was the age of those trees during the two years that you were there?

A. As I recall it, they were about fifteen years old, but I can't remember exactly.

Q. That is close enough. Now, in those two years you were down in Riverside County, or was it near the town of Riverside?

A. No, it was in the county, not very near the town of Riverside.

Q. What is the locality name?

A. It has no locality name. It [522] was in the country up a canyon southeast of Riverside, perhaps twenty miles.

Q. Down in that area did you ever have any experience with rainfall on apricot blossoms?

(Testimony of Walter E. Packard.)

A. No, sir.

Q. Next after leaving there, tell me what first-hand or personal experience you had with the commercial production of apricots or the first-hand or personal observation of it since your Riverside experience?

A. Yes. I observed the production of apricots in the Clayton Valley.

Q. Where?

A. In the Clayton Valley in Contra Costa County. Those orchards were receiving dust from the Cowell-Portland Cement Company plant there, and I observed those over a period of two years.

Q. What years? A. 1931 and 1932.

Q. Have you now stated all of your first-hand or personal experience since your Riverside experience? A. How is that?

Q. Have you now stated all your first-hand or personal experience subsequent to the Riverside experience?

A. No. I do have apricot trees in my backyard—one apricot tree in my backyard that I have closely observed.

Q. Have you now stated all your first-hand or personal experience? A. Yes.

Q. In Contra Costa County did you observe the trees during blossom time? A. Yes.

Q. Did it rain during that time?

A. I do not remember whether [523] it did or did not.

Q. Mr. Packard, can you tell me whether at any

(Testimony of Walter E. Packard.)

time in your life you ever observed a commercially-producing apricot orchard during blossom time, with rainfall upon it during that time?

A. No, not that I recall.

Q. Then as a matter of fact, anything you said upon direct as to the effect of rainfall upon apricot blossoms was not based upon any personal observation or experience of your own, was it?

A. No, sir.

Q. Now, I understand you were employed by Permanente beginning about or on the 2nd day of July, 1943; have I got that right? A. Yes.

Q. And you have been steadily employed by them since?

A. Only occasionally, just a day at a time through the period—only sometimes a day, sometimes at no time during the month.

Q. Was the employment on a per diem or fee basis? A. It was on a per diem basis.

Q. Was the purpose of your employment addressed to dust damage or the absence of it, connected with the Permanente plant at Natividad?

A. Yes.

Q. Something has been said through this case and also in the course of your direct examination about this statewide depression of the apricot production of California down to about 20 percent. You recall that? A. Yes.

Mr. Moore: You mean in 1943. [524]

Mr. Naus: Q. In 1943, I meant. You recall that, don't you, Mr. Packard? A. Yes.

(Testimony of Walter E. Packard.)

Q. That is 20 percent of what?

A. I think the figure of 20 percent is not exact. I do not think I gave that figure.

Q. I agree with you. What I am trying to get *it*, first of all, is what do you apply the 20 percent to as a basis? 20 percent of what?

A. I didn't use 20 percent, but whatever percentage there is was a percentage over a 25-year period of production of apricots in California.

Mr. Naus: Have you that exhibit, Mr. Moore, that you borrowed back from me, that Exhibit N?

Q. That period you speak of is at the period reflected by Exhibit N-1, being page 42 of *Deciduous Fruits Statistics*?

A. Yes, sir; yes, sir, it is.

Q. I notice in the first instance that is not a 25-year period, you mean from 1919 to 1943, both inclusive, don't you?

A. Yes, approximately.

Q. When you attempt to apply what percentage 1943 is of something else, you take the period 1919 to 1942, both inclusive, don't you?

A. I would if I were asked that question, yes.

Q. That is the base that you have in mind when you talk percentages isn't it?

A. I haven't talked percentages yet, but if I were asked that, that would be the basis of it, yes, sir.

Q. I notice in looking at page 42 there is one column that shows [525] the total tonnage of apricots year by year produced in California.

A. Yes, sir.

(Testimony of Walter E. Packard.)

Q. And there is another column alongside of that that shows the number of commercially bearing acres from which that tonnage was taken.

A. Yes, sir.

Q. So for the purpose of comparison, the true or weighted comparison would be the tons per acre produced each year, would it not?

A. Yes, sir.

Q. When you say you take it over that period of 25-odd years, you mean take the average of that period, don't you? A. Yes.

Q. What was the average production in California during the years 1919 to 1942, both inclusive, in tons per acre?

A. You would have to let me add this up and divide it.

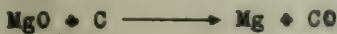
Q. It can be done very quickly. Will you do it, please? A. Yes, sir.

Mr. Naus: If the Court please, in that connection I asked the court reporters this morning to be good enough to copy off in their notes both sides of the blackboard used here so far, and I understand they have done that, and with that understanding may we have the blackboard erased for the purpose of further figuring, with the understanding that the reporter at this place of his daily transcript will transcribe or copy in there everything that appears upon both sides of the blackboard?

The Court: No objection?

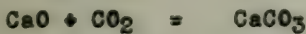
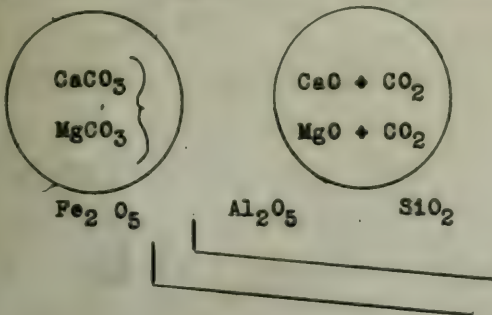
Mr. Moore: No objection. [526]

(The following appeared on one side of the blackboard:)



(See Dr. Duschak's testimony, Page 191)

(The following appeared on the reverse side of the blackboard)



(See Mr. Twining's testimony, Page 190)

(Testimony of Walter E. Packard.)

Mr. Naus: What was the answer to my question?

The Court: Per acre.

Mr. Naus: Yes, per acre.

Mr. Moore: I make no objection, your Honor, except that it be checked with an adding machine.

Mr. Naus: Why, surely. It is all arithmetical.

The Witness: The average for the 25 years in question is 2.69 tons per acre.

Mr. Naus: Q. Did you include 1943 in that?

A. Yes, sir.

Q. I know, but excluding 1943. I want to get the average to apply a percentage to.

A. Yes. Well, I shall get that, then.

Q. I think it will be about 2.9 or thereabouts.

A. 2.75 tons per acre, as I get it.

Q. 2.75? A. Yes, sir.

Mr. Moore: Pardon me, Mr. Naus, can't you leave that so I can see it without looking over your shoulder at the witness and cutting off my view entirely?

The Court: I never thought either one of you was so temperamental.

Mr. Naus: I wanted it so both your Honor and the witness could see it.

The Court: I will scold both of you. Proceed.

Mr. Naus: Q. Mr. Packard, what was the statewide average in tons per acre of commercially-bearing apricot acreage in the year 1943?

A. 1.16. [528]

Q. Mr. Packard, is it or not the fact that in

(Testimony of Walter E. Packard.)

1943 the apricot production statewide in California was 42 percent of the statewide average over the preceding 24 years? A. Yes, sir.

Q. Now, in tons per acre, the production in Monterey County far exceeds the statewide average, doesn't it, with respect to apricots?

A. The production of apricots in 1943 was less per acre in Monterey County than the statewide average.

Q. Let us exclude 1943 and take it generally. Isn't the production in tons per acre in excess of the statewide average? Isn't it above?

A. I can't answer that without looking at the record. I do recall I figured for 1943 and it was lower then. I have the record that I can look up, if you care to, but I can't answer it without seeing the record.

Q. In your study of the Pista orchard you ascertained, did you not, that in 1944 and preceding years it had no more than 44 acres in commercial bearing?

A. Could you ask that question again? I did not quite get it.

(Question read.)

A. No, sir, I did not.

Q. How many acres did it have in commercial bearing?

A. According to my estimate there were about 35 acres in bearing in 1943 and in prior years. I would presume that the acreage was much in excess

(Testimony of Walter E. Packard.)

of that because of the area of replants where the trees had been killed by oak root fungus; I had presumed they were bearing trees prior to that time. So that the acreage [529] in prior years was greater than the acreage in 1943. During that year several trees died. I think at least 25 have died from oak root fungus since I have watched the orchard, so I presume in prior years the acreage was larger.

Q. What was the acreage in 1944, the commercially-bearing acreage of apricot trees on the Pista orchard in the year 1944?

A. I should say 25 trees less than there was in 1943, when I estimated it to be about 25 acres.

Q. 25 acres would be about a third of an acre less, wouldn't it? A. Yes.

Q. What do you understand the production in tons per acre of the Pista orchard in 1944 to have been?

A. I do not recall the figure. I think the figure is in evidence, but I do not recall exactly what it was.

Q. Well, the figure is 450 tons, so down in this Natividad area you get a production of around 13 tons per acre, from your figures, don't you, in good years? A. In that one year, yes, sir.

Q. Isn't that, or, nearly five times the statewide average over the years?

A. Yes, nearly five times.

Q. Then I ask again, can you or not tell me, as an apricot expert, if there is any locality in Cali-

(Testimony of Walter E. Packard.)

fornia that has a higher yield of apricots per acre than in localities in Monterey County?

A. Yes.

Q. Where?

A. I think that the records show that the orchards in Santa Clara County bear heavier than the orchards in Monterey. [530] I think the records show that the orchards in San Benito County bear heavier. I believe that the records show that the apricots up near Winters bear heavier than Monterey County. I think Monterey County in general is rather a disadvantaged area for the production of cots, because of the prevailing fog that is so common in that county.

Q. What would you estimate the average production of the Pista orchard to have been prior to 1943?

A. The records are on file from 1939 to 1944, and if I may examine the records, I will be glad to answer it for that period.

Q. In all these investigations that you made for Permanente that ended up in rather filling your briefcase, have you assembled those records? Have you studied them?

A. I have not assembled them, but Mr. Pista made a statement which I have that does give them, and I have studied them.

Q. Will you turn to them, please?

Mr. Moore: It may be stipulated, may it not, Mr. Naus, that the figures which he is examining are copies of an exhibit of Mr. Pista's own figures

(Testimony of Walter E. Packard.)

that are attached to his or his son's deposition, is that correct?

Mr. Naus: I have not examined what is attached to the deposition, but I assume it would be correct if I looked at and see what you have in mind.

Mr. Moore: I want to show the source of the figures.

Mr. Naus: There is no question about the source. I would [531] rather proceed with the cross-examination, however.

Mr. Moore: I want to be sure, so it is understood, these are figures produced by Mr. Pista in the deposition taken.

The Court: The witness has so testified on the stand.

Mr. Naus: Q. I am asking you, Mr. Packard, what your investigation disclosed to you as the average production of apricots from the Pista orchard prior to the year 1943.

A. In 1937 the production was——

Q. I am not asking you year by year; I am asking you what you understood to be the average; you may have used these years; you may have used others. I do not care what years you used. I am only asking you what your investigation disclosed to be the average annual production of apricots before the year 1943.

A. May I add these figures again?

Q. Surely. A. Approximately 10 percent.

Q. I am asking you about the average annual production of an apricot orchard. I do not know

(Testimony of Walter E. Packard.)

how an orchard produces percent. I am speaking about production of apricots.

A. Excuse me. I missed the question.

Q. What was the average annual production of apricots from the Pista ranch before the year 1943?

A. 266 tons per acre.

Q. Now, you do not mean that.

A. I mean tons—excuse me—tons per year.

Q. How do you translate that into tons per acre? Will you do that? [531]

Mr. Moore: That is assuming the 35 acres, Mr. Naus, exist.

Mr. Naus: I am addressing the witness, Mr. Packard, who is put on by you. He brought in maps of the area. He is talking as an expert, one who has had it under observation, and one who has inspected it. If the witness' answers on cross indicate that he has been in error somewhere or loose in his estimates or the like, I do not think he should be given hints during his cross-examination.

Mr. Moore: I am not giving hints. I am objecting to the question as assuming facts contrary to the evidence. Mr. Packard testified that from his examination of that orchard and the replants he was of the opinion that in past years it had a greater acreage than it had in 1943. Now, we can get from Mr. Pista or somebody how many trees or acres he did tear out—in other words, no accurate estimate can be made here unless we know when those trees were taken out. If you want to use the 35 acres that Mr. Packard says now, I am not going

(Testimony of Walter E. Packard.)

to object to it, but I want the question to be understood, your Honor, that it assumes facts contrary to the evidence, that there are trees taken out.

The Court: The record discloses so far that there was a third of an acre taken out.

Mr. Moore: That was between 1943 and 1944.

The Court: All right. If there was two and a third [532] acres taken out, develop the fact, whatever it may be. He has a right to develop his facts as he sees them. If there is any question about it, you develop the fact.

Mr. Naus: If the Court please, you will have in mind no doubt in my question I did not mention number of acres. I left that to the witness.

The Witness: I am ready.

The Court: Read the question.

(The last question was read by the reporter.)

A. You translate it by dividing the total tonnage by the number of acres.

The Court: From 1943 on.

The Witness: The average tonnage.

Mr. Naus: Before 1943.

The Witness: Prior to 1943, without including 1943, dividing it by 35 acres, the average would be 7.6 tons per acre per year. Dividing it by 40 acres, which was the figure given by Mr. Lewis, it would be 6.6 tons. Dividing it by the 44-acre figure which Mr. Pista gave, it would be approximately 6 tons per acre.

The Court: That covers your objection.

(Testimony of Walter E. Packard.)

Mr. Naus: Covers everything that either one of us could think of, I think.

Q. Now tell me, Mr. Packard, laying aside state-wide averages for the moment, what, from your investigation, you found the county-wide production of apricots in Monterey County in the [533] year 1943 to have been in percentage of the average of preceding years?

A. I would have to have the record.

Q. I think you have it right here, haven't you, in this exhibit that you brought into court, Defendant's Exhibit O?

A. That is not given in tons. I would have to change that to tons. That is in boxes.

Q. Well, how many boxes are there to the ton?

A. I think there are about 40 pounds to the box, 50 boxes to the ton.

The Court: Q. That would be in Los Angeles, would it?

A. No, these are 40-pound lugs.

Mr. Naus: Q. Mr. Packard, you mean 40 pounds of apricots or 40 pounds of apricots and box and nails?

A. I got the figure from Mr. Lewis. He said 40 pounds: I presume he meant 40 pounds of apricots in a box.

Q. You presume that. I will tell you it can be proved the weight of apricots is 27 pounds after you subtract the wood, the nails, and so on.

Mr. Moore: Is that a question or an argument with the witness?

(Testimony of Walter E. Packard.)

Mr. Naus: I will withdraw that, but that gives me a thought.

The Witness: You are thinking about a different box.

The Court: That is why I mentioned the Los Angeles lug box.

Mr. Naus: Q. Take the boxes that are in evidence, Exhibit O, the exhibit that you personally brought in here presumably after studying. That refers to boxes. In those statistical boxes [534] that are mentioned there what was the net weight per box used by the statistician?

A. I haven't got that figure. You didn't give me the figures.

Q. Then I will reframe the other question. I will ask you in tons, because we can reach the same percentage in boxes. Take the total production countywide, the total production in boxes of apricots in Monterey County in the year 1943; what percentage is that production of the average of the preceding years in boxes?

A. I will tell you if you will let me have those figures.

Mr. Naus: I am perfectly willing to proceed without any recess. I do not need any. But if the witness is going to figure, perhaps your Honor would prefer to have a recess to enable him to do it.

The Court: Very well.

(Recess.) [535]

Mr. Moore: I suppose, Mr. Naus, it is stipu-

(Testimony of Walter E. Packard.)

lated that all of these computations are subject to check?

Mr. Naus: Oh, surely, surely. Any one of us could figure them. They are necessary as a basis, however, for the result of further examination of the witness.

Mr. Moore: All right.

Mr. Naus: As a matter of fact, I had already calculated them.

Q. Are you ready to proceed, Mr. Packard?

A. I have one percentage yet to figure. I have the figures.

Q. All right. First of all, let us take it a step at a time. The point of the question in substance is: Take the statistically reported tonnage or volume in boxes of apricots produced in Monterey County in the year 1943. What percentage is that of the average production in the preceding years?

A. The average production is, if these figures are right—is 8 percent of the average for the preceding five years.

Q. Well, now, let's see. Have you got the exhibit there? A. Yes, sir.

Q. All right; let's see.

A. I may have made an error. That seems rather low, but that is as my figures came out.

Q. Now, let's see, Mr. Packard. The years are 1938, '39, '40, '41, and '42, and '43, aren't they? No; put 1943 by itself (writing on blackboard).

A. I see where I made my error. For one year I copied off the wrong figure. I am very sorry.

(Testimony of Walter E. Packard.)

[536] I took the figure on the line below. May I just have a second to refigure it? I can refigure it quickly now.

Q. Surely.

A. Approximately 55 percent, as I get it now.

Q. In arriving at 55 percent, what number of tons or boxes, rather, of production did you use for the year 1943 to calculate your percentage?

A. 90,450.

Q. All right. Now, I will tell you in advance where I am heading so you can follow me. Nobody is bound by what I say, but you are going to find that is right. I think I can tell where you fell into error. Your 55 percent——

A. Yes, 55 percent.

Q. ——is this, is it not: the fraction for 90,450 above the line to 166,051 below the line; is that how you arrived at it? A. Yes.

Q. Now, let us take a step further. In the years 1938, '39, '40, '41, and '42 the producing acreage was practically 1,853 acres a year, wasn't it?

A. According to these figures, yes sir.

Q. That is all we have to go by; that is what the producing acreage was in the years before 1943, was it not? A. I think not.

Q. That is what the figures show, is it not?

A. Yes, sir. May I explain my reason? I think the acreage was checked in 1943, and the acreage was reduced, and that by going over the actual acreage in the years prior to that time that you would [537] find the error was in those figures

(Testimony of Walter E. Packard.)

rather than in the 1943 figure, which I think was probably right.

Q. All right. Then according to your understanding, if the true acreage for each of the years were taken, you consider that the statistics are in error, do you, with respect to acreage of apricots?

A. Yes. Yes, I do.

Q. But if you take the acreage actually shown on the report, it shows only 1,629 acres in 1943, doesn't it?

Mr. Moore: 1,600 or 16,000?

Mr. Naus: 1,629.

A. 1,600—that is right, 1,629.

Q. Now, the 1,629 acres in the Monterey County figures as reported in the statistics is to the acreage reported for the previous years as 90,450 is to 102,700; correct?

A. That is, if you translated it, yes.

Q. If you take the yield per year in the years preceding 1942 on this lower acreage reported for 1943 you would end up with 102,700 boxes?

A. I presume so, yes. I haven't figured those, but that looks right. It looks right.

Q. Take my word for it. If you want to correct it this afternoon, you may.

A. But it looks right.

Q. Then if you apply that to the average of 166,051 you would then have a weighted or true average according to the statistics of 62 percent, wouldn't you?

(Testimony of Walter E. Packard.)

A. You would get a weighted average, but not a true average, on my assumption. [538]

Q. You would get a weighted average according to those statistics?

A. On your assumption, yes, sir.

Q. I am only assuming the statistics. On the weight of those statistics you end up with 62 percent instead of 55 percent, don't you?

A. Yes, sir, on that assumption.

Q. Assuming the production in Monterey County county-wide as distinguished from the production in California state-wide, why is it that in 1943 the actual production of apricots in Monterey County was either 55 percent or 62 percent, as the case may be, instead of the lower statewide average of 42 percent?

A. It was due to the fact that there are comparatively few orchards in Monterey County, and, as a result, orchards that yielded well represented a greater weighting in the total average. The average production per acre in Monterey County was less than the average production for the State.

Q. What are the dates of harvesting apricots in Santa Clara County?

A. They vary in different years. There is no set date. I think they vary from as early perhaps as the 25th of February on to—including maybe the 18th of March.

Q. Your answer seems to assume that I asked dates of blossoming. My question really was as to dates of harvesting.

(Testimony of Walter E. Packard.)

A. Oh, excuse me. Generally in July.

Q. What are the dates of harvesting apricots in Alameda County? A. In July. [539]

Q. What is the date of harvesting apricots in Contra Costa County? A. July.

Q. You mean the regions all go on the market at the same time with Monterey County?

A. Not exactly. There is some difference, but in general the cots are harvested in July.

Q. What cots?

A. Some come in late in June; some, as this year, come in as late as August.

Q. What region in California puts apricots commercially on the market earliest?

A. I think the region around Hanford in Kings County, but I am not positive; it may be the Winters area.

Q. You were down around the Natividad region in July 1943, weren't you? A. Yes.

Q. Did you spend a good deal of time down there in the month of July?

A. No; I was down there on the 2nd; then I went back on the 6th, and I stayed two days then. Then I was there again on the 10th, and I think I stayed two days then. That would be five days out of the month.

Q. In the year 1943 when was the Bardin apricot crop harvested, over what dates?

A. I don't know.

Q. In the year 1943 when was the Anderson apricot crop harvested, over what dates?

(Testimony of Walter E. Packard.)

A. I don't know what dates covered the entire harvest; they were harvesting in July.

Q. Well, from about when to when?

A. I don't know.

Q. In the year 1943 over how long a period of time, over how [540] many calendar days, did the Bardin harvest extend? A. I don't know.

Q. Over how many calendar days did the Anderson harvest extend? A. I don't know.

Q. The Pista harvest? A. I don't know.

Q. Do you know the dates over which harvesting extended in any apricot orchard in the Natividad or Alisal districts?

A. Not exact dates, no, sir.

Q. You spoke, by the way, of taking one box of apricots from the Pista orchard in 1943. That was given to you, was it? A. Yes, sir.

Q. For the purpose of using as a sample, was it?

A. I don't know. I asked to buy apricots, and Mr. Pista offered to give them to me. I wanted to pay for them. He was very kind indeed and gave me, I think, three boxes all together.

Q. He made you a present of them, didn't he?

A. Yes, he did.

Q. Did you tell him you were going around to the canneries and have them priced?

A. He knew exactly why I was down there. I went over his orchard and talked the whole thing over. I didn't tell him I was going to take the cots to be priced.

Q. I didn't ask you whether you told Mr. Pista

(Testimony of Walter E. Packard.)

why you were down there. I asked you if when he made you the present you told him that you were going to take the boxes around to the canneries and have them priced. A. No, no, I didn't.

Q. You spoke of taking some samples of dried apricots that had [541] something that looked green on them. When did you get those samples?

A. I think on the 10th of July.

Q. And where did you get them?

A. I got them off the trays.

Q. And who was present when you got them?

A. My wife was present, and I—she and I went down there together, and there was a boy—no, I think she and I were the only ones present when I took those cots.

Q. Did you tell Mr. Pista you were going to take some?

A. He gave me the free run of the ranch. He said, "Just go out and see anything you want; get anything you want." He was very kind indeed and very cooperative, gave me complete freedom to do anything I wanted, and I went out to see the trays with him, and I didn't ask him whether I should take samples or not, but he said, "Just go ahead by yourself and get what you want," and so I did.

Q. Getting back to my question, apparently only you and your wife were present. I merely asked you whether you had told Mr. Pista you were going to take some of the dried apricots out of the trays in his orchard.

(Testimony of Walter E. Packard.)

A. No, no, I did not. I am not at all sure but what he knew that I did it; I didn't try to conceal it at all.

Q. Now, have you ever made any chemical study or analysis of dust from any plant that has fallen on an orchard?

A. No, sir. Well, may I correct that? I would say Yes.

Q. When and where?

A. I made tests in the Clayton Valley [542] in 1931 and '32. I made tests in the Santa Cruz area in 1941, I think it was, and I made tests in the Natividad area in 1943.

Q. When you say "tests," tell me specifically what you mean by a test, what you did, how you tested.

A. I had a bottle of hydrochloric acid, and I simply dropped the acid on dust that I wanted to determine whether the dust was carbonate or not; and if it is carbonate you have a very quick and immediate reaction. And so I carried a bottle of acid with me so that I could distinguish between the dust from the plant and road dust or other dust that might have gotten on the trees.

Q. You mean a bottle of this hydrochloride—that was a liquid, wasn't it?

A. Hydrochloric acid. Yes, it was a liquid, and I had a dropper.

Q. Had you finished? A. Yes, sir.

Q. The bottle you had with you was a bottle of liquid? A. Yes.

(Testimony of Walter E. Packard.)

Q. It was hydrochloric acid? A. Yes, sir.

Q. Then you got some dust somewhere in the orchard, did you? A. Yes.

Q. When and where did you get the dust in the orchard?

A. I think on each of the trips I made in July in 1943, and also in 1944, I carried acid with me and tested dust not only on the Pista ranch but on the other properties. [543]

Q. We are far away from my question.

A. I'm sorry.

Q. When you collected this dust in the orchard, where in the orchard did you collect it? I want to know what dust you picked up or how or where in the orchard?

A. I didn't pick it up. I would simply drop a drop of acid on a leaf that contained dust to determine whether it was dust from the plant or not. I didn't collect dust; I simply tested it where it was, and I did that all over the orchard—Mr. Pista's orchard.

Q. On leaves?

A. On leaves and on fruit and on weeds and other growth—anywhere where I wanted to determine whether the dust was from the plant or not.

Q. You would put how much of this hydrochloric acid on a leaf? A. A drop.

Q. With a medicine dropper or an eye-dropper, or something like that? A. Yes.

Q. As large a drop as would come out of an eye-dropper? A. Yes.

(Testimony of Walter E. Packard.)

Q. Then when that dropped on the leaf, you were depending on visual observation to give you the results, were you? A. Yes.

Q. What visually did you observe in the way of a chemical reaction upon the dropping of that acid on the leaf?

A. As soon as the acid reached the dust, if it was dust from the plant it immediately boiled up; there was an immediate reaction, a boiling effect, bubbles, as it were. It was very [544] easy to distinguish. If there was not carbonate present you didn't have that particular reaction, if it was just an ordinary earth, unless the earth contained lime.

Q. What reaction, if any, would you get if there were a calcium oxide present?

A. I am not positive; I think you would get—I can't say.

Q. You don't know, do you?

A. No, sir, I don't. I don't know.

Q. Then from any test you made of dust——

A. I should know, but I don't know that question.

Q. From any test you made in the field can you say or not whether there was any calcium oxide on any leaf in the Pista orchard from any test you personally made?

A. Yes; from my understanding of chemistry that acid shows carbonate but doesn't show oxide.

Q. Getting back to my question: From any personal chemical test that you ever made at any time in the Pista orchard you cannot say whether or not

(Testimony of Walter E. Packard.)

calcium oxide was present, can you, one way or the other? A. No.

Q. And you can't say one way or the other whether any calcium hydroxide was present on the vegetation, can you? A. No.

Q. And you can't say one way or the other whether any magnesium oxide was present on the vegetation? A. No.

Q. And you can't say one way or the other whether any magnesium hydroxide was present on the vegetation, can you? A. No. [545]

Q. This test you made was a purely qualitative test, was it? It wasn't quantitative?

A. Yes, that is correct.

Q. That is correct?

A. That is correct. I did make this other observation, though, that dealt with the question that you have just asked: I did test leaves of apricot trees with oxide and hydroxide of calcium, and it did leave a burned area on the tender leaves. I observed the orchard to find out whether or not there were any indications of either an oxide or a hydroxide, that is, a burned area on the leaves, and I was unable to find any indication whatever of the effect of caustic lime.

Q. I will ask you this, Mr. Packard: The amount of damage that might be done by dust in apricot blossoms, assuming the dust damaged it at all, would be greater, would it not, the longer the blossom time extended? A. No, not necessarily.

Q. I will ask you this——

(Testimony of Walter E. Packard.)

A. My answer would be No directly to that.

Q. Have you finished all you wish to say in answer now? A. Yes, sir.

Q. I will ask you whether or not the greater the length of apricot blossom time the greater will be the opportunity for dust damage in the blossom.

A. No, sir, I would say not, and for this reason: The pollinization, which is the important process in this whole activity, occurs usually either prior to the time the blossoms open up or within a few hours after they [546] open up. Now, the stigma may remain receptive if it is not pollinated for a period of from two to ten days, but ordinarily the pollination takes place either prior to opening or immediately thereafter. Now, it doesn't make any difference, after the pollination has taken place, how long a time elapses; there is only one time element involved for each flower. Each flower doesn't remain during the entire blossoming period, and the reaction is on an individual flower, not on all flowers; consequently the extension of time makes no difference; it is only one time for each flower.

Q. Do or do not apricot trees in blossom time ever go through more than one cycle of blossoming?

A. I have never heard it called a cycle before, but it does go through various stages of blossoming where you have an early opening of some blooms, then another opening of blooms, and then another extending over a period of perhaps three weeks, and it could be very easily described as a series or cycles.

(Testimony of Walter E. Packard.)

Q. Do you mean by that that some of the buds are pink and open up earlier than others?

A. Yes.

Q. And it is the various stages of development, then, that will control the length and cycles of blossoming, is that correct?

A. The rate of development of different buds, some opening early, some later, and some still later, on the same tree.

Q. Now, these rainfall records you gave—Have I got them [547] here, I wonder? You had some figures there for February and for March 1943.

Mr. Moore: I think they are there.

Mr. Naus: I would like to turn to them.

Q. Is this what you were using yesterday, Mr. Packard, in giving those figures and testimony?

A. Yes.

Q. That is Defendant's Exhibit R. Now, you mentioned quite a number of days in the last half of February and the first half of March that you spoke of as days of rain. Isn't it the fact that on a number of those days that you referred to the rainfall in the aggregate was only .01 or .02 or .03 of an inch?

A. The rainfall during that period varied from .01 to .4 of an inch.

Q. Let me see if I can find it——

A. No, to .86 of an inch; nearly an inch.

Q. All right. That was on what date?

A. That was on the 9th of March.

Q. Now, then, you based your opinion of dam-

(Testimony of Walter E. Packard.)

age from rain particularly on that rainfall on that day, didn't you? A. No, sir.

Q. What rainfall did you base it on?

A. I based it on the rainfall from February 21 to March 15, or to March 11, really.

Q. Take that day where the rainfall was .86 of an inch. You understand, do you not, that is the total or aggregate over a 24-hour period?

A. Yes.

Q. Would it make any difference if that .86 of an inch fell [548] during the entire period of 24 hours as distinguished from being concentrated in a very short period of time during that period?

A. Oh, it might make a difference.

Q. Which do you understand is the way the rain fell?

A. I understand it didn't come all at once—well, excuse me; I have no data whatever upon which to make an estimate of that. I don't know.

Q. The point is, you don't know anything about that, do you?

A. I don't know how the .86 of an inch of rain fell on March 9 in the Natividad area.

Q. Now, you spoke something about the Bordeaux mixture. If a Bordeaux mixture is put or sprayed onto an apricot tree when it is in the later pink bud stage but not yet in the white blossom stage, it won't interfere with pollination or fertilization, will it?

A. If it is strong, it will burn the blossom, if it

(Testimony of Walter E. Packard.)

is too strong; the ordinary Bordeaux spray will not injure the blossoms.

Q. When you get into degrees of strength, what do you call an ordinary Bordeaux spray? What is the formula used?

A. Well, ordinarily 8-8-50 is the usual dosage; sometimes 5-5-50, meaning 5 pounds of lime, 5 pounds of copper sulphate, to 50 gallons of water. But there are two elements in that that are effective, and if you put on too much of the copper sulphate you will burn the leaves from the effect of that insecticide. [549]

Q. Well, now, take a Bordeaux mixture of 8-8-50, will that burn the leaves?

A. No, that is a perfectly safe formula.

Q. Take a Bordeaux mixture of 5-5-50, will that burn the leaves?

A. No, that is a perfectly safe formula.

Q. Taking a Bordeaux mixture of 8-8-50 sprayed on the buds in the pink stage, will that injure them or interfere with pollinization or fertilization?

A. No.

Q. And the same question with respect to a Bordeaux mixture of 5-5-50? A. No.

Q. Take a Bordeaux mixture sprayed on the white apricot blossom, 8-8-50, will that interfere with pollination or fertilization?

A. No. May I qualify that statement? Ordinarily not. Under field conditions, I would say No. Under laboratory conditions, where you simply throw it on with an atomizer so that all of the

(Testimony of Walter E. Packard.)

stigma is covered prior to the time of pollinization—under those specific conditions, then there would be an interference with pollinization.

Q. Caused by what?

A. Caused either by a mechanical stoppage of the area or by creation of an alkaline reaction in the juice that is exuded by the papillae that form the surface of the stigma.

Q. You mean that sticky stuff that the stigma secretes? A. Yes.

Q. Or exudes, is that it? A. Yes, sir.

Q. Does the damage come about through the chemical neutralization of it?

A. Ordinarily, yes, it is more apt to do that [550] than mechanical injury.

Q. Well, would anything that chemically neutralized the acid of that stigmatic secretion interfere with pollination or fertilization?

A. If it covered all of the stigma so that the entire surface upon which pollen grains may rest is neutralized. If, however, only a portion of the area is covered or neutralized by the addition of some material, then pollen may still germinate on the areas that are not affected by it.

Q. Well, would you say that a small quantity sprayed on the flower in the year 1944 might be perfectly safe, but a larger quantity sprayed on a flower in the year 1943 would be dangerous?

A. No, I think not, because the experiments that have been conducted that I have seen, and in my conversations with specialists at the University, I

(Testimony of Walter E. Packard.)

assume that there is no danger of—no serious danger of lack of pollination if you sprayed during full bloom.

Q. I am speaking now of getting to the point where a sufficient quantity would be put on; even in full bloom you can get to the point where by adding to the quantity of alkaline material you can reach a point of danger, can't you?

A. Yes, under that assumption, yes. I don't accept the assumption under field conditions, but under that assumption, yes.

Q. If anything were deposited out of the air that was in the nature of fine dust of an alkaline nature, couldn't that come down in sufficient quantity to interfere with the pollination [551] in blossom time?

A. It could, but in my estimation it doesn't in the Natividad area, and for this reason: The dust is carried a considerable distance. I have estimated it to be carried in some cases a number of miles, and therefore the area immediately around the plant gets only a certain proportion of dust, the largest percentage in terms of total weight; but the dust particles that have fallen on the Pista property fall in a scattered pattern so that over a period of one day or a week you see on new vegetation just a scattered pattern of the particles that you can see. Now, it would take, in the largest size particle that Dr. Duschak testified to, it would take about twenty of the largest put end to end to go across the stigma of a normal apricot blossom, or it would take per-

(Testimony of Walter E. Packard.)

haps something over 3,000 of them to cover the area of a stigma. Now, in my observation of the pattern of dust on new vegetation and new leaves in the *Pista* orchard, I found no indication whatever that there would be any chance—any possible chance of enough dust landing on the stigmas of the flowers of that orchard to create an alkaline reaction on the stigma that would prevent pollination, because each flower will give off perhaps in excess of 100,000 pollen grains. A very large number of those pollen grains can rest on a stigma. Any one of them germinating will eventually bring about the fertilization of the ovary. So, I think that the chances under those conditions are so utterly remote that I am perfectly [552] frank in saying that I think no dropping of dust on the *Pista* orchard could possibly have affected pollination.

Q. Well, now, let's see. You say it would take twenty particles of that *Natividad* dust, twenty particles, you say? A. Of the largest size.

Q. Of the largest size?

A. It would take a thousand of the smallest.

Q. We have got billions of them to go with. You say that it would take—that twenty of those largest particles of the *Natividad* dust would completely cover one line across the stigma?

A. Approximately, yes, of 100 micron dimension.

Q. That it 325 mesh; that is the larger dust?

A. No, that is much larger than that. The 325 mesh is, I think, 54 microns.

(Testimony of Walter E. Packard.)

Q. How many of the 325 mesh would it take to make a line across the stigma?

A. I was thinking of that size when I gave the 20 figure.

Q. I thought you said so.

A. Yes, that was correct. I was thinking of the 24—or the 54 micron size.

Q. It would take about 20 of the larger size, and more of the smaller size, to make one continuous line across the stigma, is that correct?

A. No, it would take as high as a thousand of the smaller particles end to end to cross the stigma.

Q. The stigma has a circular area, doesn't it?

A. Yes. [553]

Q. And the stigma would be completely covered in the area of the circle having a diameter of 20—a line of 20 of these larger particles, wouldn't it?

A. Yes.

Q. Perhaps somewhere around 250 or 300 of these larger particles of dust would completely cover the stigma of one blossom, wouldn't they?

A. It would be about 320.

Q. Approximately 320 of the larger particles of this dust would completely—completely and solidly cover the circular area of the stigma in one apricot blossom, wouldn't they?

A. Yes.

Q. By the way, referring—

A. Of that size, of the size 54—

Q. That is what my question asked.

A. Yes, I wanted to be specific on it.

Q. Now, turning to Defendant's Exhibit T, how

(Testimony of Walter E. Packard.)

many times is that apricot blossom magnified from natural size? A. I think it is five times.

Q. You mean——

A. No; wait a minute. I did that with a pantograph, and I took the exhibit in the bulletin which is much larger. I can't answer the question; I don't know.

Q. All right. Did you with the pantograph transfer the illustration in the bulletin to this paper by increasing that five times? A. Yes.

Q. By increasing the text illustration five times?

A. Yes.

Q. But the text illustration to begin with is an enlarged [554] illustration, isn't it?

A. Yes, that is right.

Q. I will ask you again, can you or not tell me how many times this Exhibit T showing an apricot blossom is magnified over natural size?

A. I can't say, but very many times.

Q. This shows a fertilized ovule there, does it not? A. Yes.

Q. It is a diagrammatic representation?

A. Yes, it is a diagrammatic representation.

Q. It diagrammatically represents the longitudinal section of an apricot blossom after pollinization and fertilization has completed?

A. Yes.

Q. The long stem from the stigma at the top to the ovary sac at the bottom is called the style, isn't it?

A. The style is the stem of the pistil. The

(Testimony of Walter E. Packard.)

filament inside as shown there is not the style. That is designated—I can't see now the name; it should be there.

Q. You drew it.

A. Yes, but I say this is the filament—ordinarily called the filament of the growing pollen.

Q. You copied all these lines and copied all of these words from a book, didn't you? A. Yes.

Q. Now, getting back to my question: The long stem from the stigma at the end of the pistil to the ovary sac at the bottom of the long stem is called the style—s-t-y-l-e—isn't it?

A. The outer stem, yes. The inner side is the filament; the outside is the style.

Q. I am asking you the whole stem; that is the name of the [555] aggregate of the stem?

A. Yes, that is right.

Q. The pollen travels down the channel inside of the style, doesn't it?

A. No, there is no channel. The cells inside of the style are in contact; there is no airway between them, but they are so constructed that when a pollen filament begins to grow through, just like a root does in soil, it forces its way through and the cells separate. There is no open channel containing air that the filament goes into.

(Thereupon a recess was taken until 2:00 p.m. this date.) [556]

Thursday, September 21, 1944,

2:00 p.m.

WALTER E. PACKARD

resumed.

Cross-Examination—(Continued)

Mr. Naus: Shall I proceed, your Honor?

Q. Mr. Packard, you were speaking of the quantity of dust this morning that it would take to completely cover the one stigma; do you recall?

A. Yes.

Q. I think you finally concluded that, assuming a 325 mesh size of particle, it would take 320 particles of that size to completely cover the stigma?

A. Yes. That was a very rough estimate, but that was the figure.

Q. What size particle is 325 mesh?

A. 50 microns.

Q. A micron is one-millionth of an inch, isn't it?

A. I do not know. It is a thousandth of a millimeter. I can't transfer it into inches just offhand.

Q. When you have used the term "micron" at any earlier point in your testimony, have you used it without knowing what the size was?

A. No, I think of it in terms of microns, not in terms of inches.

Q. The letter here from Dr. Duschak speaks of the smallest particle as being 5 microns in diameter. I will ask you generally, in order to get some idea of the size we are talking about, if you take the smallest particle that has been mentioned in this case, 5 microns, in Dr. Duschak's letter,

(Testimony of Walter E. Packard.)

[557] whether a cubic inch of material—any material, dolomite or anything else—we will assume dolomite—if one cubic inch of it was reduced to cubes 5 microns long each edge, whether if they were laid out solidly on the ground, one cubic inch reduced in size that much, it would cover three acres of ground.

Q. Do you want me to try to figure that out?

Q. You do not know?

A. No, I do not know.

Q. If we once find out the size of the micron we can figure it for ourselves, I take it?

A. I told you a micron is a thousandth of a millimeter.

Q. All right. We will pass from that. Now, in your observations that you made down around the stacks, the Pista, the Anderson and the other orchards in the neighborhood, state whether or not you have observed the direction of the prevailing wind down there?

A. Yes.

Q. What is that direction?

A. From the west towards the east, and from the northwest towards the southeast.

Q. On the average does the wind blow or not at some time during the 24 hours from the stack over toward the Pista orchard?

A. During some days, yes; during some days, no.

Q. What would you say the average number of hours, if hours, out of the 24, the wind would be blowing from the stacks toward the Pista orchard?

(Testimony of Walter E. Packard.)

A. I find it rather difficult to make any exact determination of that. I went into the wind direction studies rather carefully. I got the records from the Army, [558] which takes the wind direction five times each day, and I found I could hardly draw proper conclusions from that, because I was not certain that the direction of the wind at the airport was exactly the same as the direction at the mill. However, I did observe the direction of the dust at the mill, and on most of the days that I was there the dust was blowing almost directly toward the hills which are immediately east of the mill. Then, because I felt that the records that were available at the Army air base and the records of the Weather Bureau could not be interpreted completely in this area because of local conditions, I tried to ascertain the effect of the wind by going through the territory and observing the amount of dust that fell, and my observations there—I climbed the hills back of the mill, went into the valleys back of those hills, and I went around in other directions, and my observations indicated that a very large percentage of the dust was deposited on the hills east of the mill, which checks with the prevailing wind as given by the U. S. Weather Bureau, which shows for that area prevailing wind from the west to the east, and from the northwest to the southwest.

However, I did also observe the phenomena that Mr. Anderson spoke about in his testimony, where, when the dust goes immediately up during a calm

(Testimony of Walter E. Packard.)

period, that it does umbrella out, and there is, when that occurs, I think, a general—or my observations during the time I was there—there was a [559] general drift of that high dust cloud toward the Pista ranch and up toward that canyon, which is another reason for believing that the dust that—I observed more dust toward the house at that end of the orchard than the other. I think that was the reason for there being a little more dust at that portion of the ranch than elsewhere. Those are my observations on the wind.

Q. When that dust umbrellas out in the way you mentioned, does that umbrella completely cover the whole of the Pista orchard?

A. Oh, I think not, no.

Q. How much of it does it cover?

A. That depends. You will find, or at least I found, that the records taken by the Army show various directions for wind that is below three miles an hour; that is frequently considered as calm period. Sometimes the wind would be blowing towards the Pista orchard, that is, this drift would be towards the Pista orchard, and other times it would not be. I, however, was unable to determine from the records just what proportion of the time it would blow in the direction of the Pista orchard, but in my observation I think more than a proportionate time of the calm period it would flow toward, and would be quite up, several times as high as the stack.

Q. I understood you a while ago to speak of the umbrella-like appearance as occurring, at times

(Testimony of Walter E. Packard.)

when there was no wind, during a calm period, is that right?

A. Yes, I tried to define [560] the calm period as a period when the wind was blowing at a very low velocity, because the Army does record it that way. When it is blowing I think below one mile an hour it is considered calm, and in other records below three miles it is considered calm.

Q. I understood you to say independently of the Army records that you could see that umbrella in the air? A. Yes, yes, you can.

Q. So my question does not relate to the Army records; it relates only to the visual observation that you made, and as I understand it now, you visually observed an umbrella-like effect during the periods of calm; have I got it right? A. Yes.

Q. Now, when you could visually observe the umbrella during periods of calm, I am trying to find out whether that umbrella thus observed descended over the Pista orchard.

A. I am trying to remember just what—as I recall the phenomenon, this umbrella-like cloud of dust would hang rather close to the hills and move along the hills around the curve, the end of the hills, so that it would be over a portion of the Pista orchard. It was when I observed it. But it wasn't, I would say, over all the orchards, because it extends a rather long distance east and west.

Q. Let me see if I understand that long answer. Would I fairly state it in its simplest possible form if I stated that you answered Yes, that during periods of calm you observed with [561] your eye

(Testimony of Walter E. Packard.)

that umbrella-like appearance in the air extending over the Pista orchard in whole or in part?

A. In part, yes.

Q. Now, how much of it?

A. I did not try to determine that, sir. I can make really—there is no use of my trying to make a guess, but it would go over the southeastern corner of the ranch at approximately where the house is, which is a comparatively small portion of the whole property.

Q. Speaking of the orchard, and assuming it to contain an aggregate of 44 acres of apricots, how much of those 44 acres did that umbrella extend over that you saw with your eyes?

A. I can't say exactly. I can't even give you an exact estimate, but I can give you what might be called a very, very rough estimate.

Q. I hope you will, and get to it, please.

A. It would be, I should say, over perhaps eight or ten acres, perhaps. I should say about eight acres.

Q. Now, Mr. Packard, from all your investigation, observations and studies that you made at any time down there, how many tons a day of this stack dust would have to be lost by the stack into the atmosphere per 24 hours to completely cover the stigma in the orchard with particles of five microns in diameter?

A. Why, that is impossible for me to state. I can, however, say that there would be very little chance that there would be anything like enough

(Testimony of Walter E. Packard.)

dust to do that, because the facts, when you compare them to the velocity of the dust [562] leaving the stack, would indicate that the dust is carried over quite a large area, and that the very small particles may be carried 40 or 50 miles from the mill. It is impossible to determine just the area that was affected by those particles, and I could not make such an estimate.

Q. Do you mean to suggest that particles of dust from that stack wander in the atmosphere up to 40 or 50 miles from the stack?

A. Oh, I think so, just like the dust from a volcano may extend around the world and remain in the air for years at a time and obscure the sun.

Q. Are you prepared as a scientist to liken these belching stacks to a volcano, Mr. Packard?

A. No, sir, but I can by applying Stokes' formula indicating that the dust would be carried many, many miles.

Q. I am speaking not of volcano dust——

A. No, I am speaking of cement dust.

Q. But of the stack dust?

A. I am speaking of this particular stack dust. By applying that formula you can see that it would be carried many miles, the small particles of it.

Q. As part of your inquiry and investigation down there did you attempt to determine how far from the stack you could find evidence of the dust?

A. Yes——

Q. All right.

A. No, no, I did not. I found evidence of the

(Testimony of Walter E. Packard.)

dust more than three miles from the mill, but I did not try to find evidence of the dust beyond that, but I am very [563] certain that quite a large proportion of the very small particles were far beyond that.

Q. Getting away from theory or assumption, tell me, please, the greatest distance from the stack you ever observed this dust.

A. About three miles.

Q. By the way, when this umbrella of dust is in the atmosphere such as you observed, wouldn't any rain, even a light rain—wouldn't the particles of rain have a tendency to carry that dust right down to the ground practically perpendicular or the direction that the rain was falling?

A. No, sir.

Q. Why not?

A. I can't explain why. All I know is in observation it does not, any more than smoke from a stack comes down when it rains. The smoke continues through the rain without coming down. So does the dust here. I do not know why the particles coming in contact with it do not carry it, but apparently they do not. The dust continues on through the rain and the fog.

Q. From the stack there come both gas and dust particles, don't there? A. Yes.

Q. And that is all that comes from the stack, gas and dust particles? A. Yes.

Q. Now, the gas that comes from the stack will necessarily, whether it is raining or not, expand indefinitely, won't it? A. Expand?

(Testimony of Walter E. Packard.)

Q. Yes, all gases expand. A. Do they?

Q. I thought so. I ask you as a scientist.

A. Under certain conditions. Under certain other conditions they contract. It depends on the conditions.

Q. When they are released into the atmosphere don't they expand?

A. Under certain conditions, yes.

Q. Do they expand when it rains?

A. Ordinarily a hot gas might contract rather than expand, unless it is extremely hot when it leaves the mill. You would have to determine the conditions, but the gas coming out of a stack would, of course, disperse, if you want to use that word instead of "expand." I think from the standpoint of physics it might contract rather than expand. It would disperse, however.

Q. I will ask you now: Can you give any estimate whatever of how many tons a day of dust had to go out of the top of the stack as stack loss to completely cover a stigma with dust one particle deep?

A. No, but I can tell you this: that I observed the Pista orchard in July 1943 after dust had fallen on it for some months, and judging from the thickness of the coating of dust then, which did not cover either the ground or the leaves completely at any time, I would say that in the short number of hours that the stigma is receptive, that is, pollination takes place, there would be very little chance indeed of ever having enough dust on any single stigma to affect pollination.

(Testimony of Walter E. Packard.)

Q. How many tons a day stack loss would there have to be to [565] have that result?

A. I never tried to figure it. I just did not see it on the ranch. It wasn't there, and I don't know—I couldn't figure it theoretically.

Q. Are you prepared to say one way or the other whether 56 tons a day were being lost out of the top of the stack—56 tons of dust—whether that would have the effect of covering the stigma, or about that?

A. I would say not, because my observation has been that much more than that was coming from the Cowell stacks; it did not do it there, and I would judge it would not do it here.

Q. How many tons were involved in this other place you speak about?

A. I think as high as 90 tons a day came out of the stacks.

Q. By the way, in your criticism of the Anderson report that is in evidence here, the Cornell report, I understood you to say that you concluded that Anderson's results could be explained only if certain things occurred during a driving rain. Do you recall that?

A. No, I do not recall saying that. I can explain what I did say.

Q. No, wait a minute on that. If you are trying to tell me now whether the reporter did not get you correctly in writing down what you said, that is one thing. If you wish to explain what you said, you may do so.

(Testimony of Walter E. Packard.)

A. May I have the reporter read that?

Mr. Moore: The witness has a right to have the testimony [566] called to his attention, Mr. Naus, that you are interrogating him with regard to. It has been written up.

The Witness: May I have my answer read?

Mr. Naus: Well, I would have to go through the transcript to find it. I know definitely that I wrote that phrase "driving rain" down in quotes while you were testifying, and it was in the course of your criticism of the Anderson report, but rather than taking up the time of the Court going through, I will pass it, because I know when I read it and his Honor reads it he will find it.

The Witness: I know what I said, too.

Mr. Naus: Q. What did you say about driving rain, according to your recollection?

Mr. Moore: I object to a debate between counsel and the witness. We have a daily transcript written up, and the witness is entitled under those circumstances to have his attention called to what he did say.

The Court: Call it to his attention.

Mr. Naus: I will pass it, then. I will call it to your Honor's attention in the briefs. I do that because I do not want to take the time now to study through it. I have not run through the transcript for that purpose.

Q. Mr. Packard, what is the diameter of the foliage of these trees, the apricot trees, in the Pista orchard on the average?

(Testimony of Walter E. Packard.)

A. I do not know. [567]

Q. What is your best estimate?

A. I have never tried to estimate it. I haven't the slightest idea.

Q. What is the distance between the centers of trees, roughly?

A. I think 24 feet on the Pista orchard.

Q. As that foliage extends out in the air above the ground, how much clear space is there between the rows of trees?

A. I never tried to estimate it. It would be the roughest kind of a guess.

Q. What is your best estimate?

A. My best estimate would be perhaps a sixth or seventh or eighth, perhaps, of the area that would be free from having the trees immediately above it.

Q. I am asking you what is the clear space between trees in feet?

A. 24 feet space between the trunks of the trees.

Q. I am speaking between the foliage of the trees above the ground.

A. Sometimes the foliage may contact in the middle and other times, when the trees are young, there will be quite a wide space—20 feet when the trees are young.

Q. Evrybody knows that. I am trying to speak of the condition in 1943. We all know what we are talking about. How much clear space was there between the trees?

A. It varied on the Pista orchard very appreciably.

(Testimony of Walter E. Packard.)

Q. What is your estimate of the distance?

A. I would say it varied.

Q. Between what and what?

A. On the stunted trees on the hillside I should say half of the area between the trees was [568] not covered by the leaves. Some of the best trees, I should say that perhaps not more than three or four feet, perhaps, would separate the leaves from, oh, maybe five feet—three or four feet between the leaves of the next branches.

Q. Do you mean, then, anywhere from a minimum of 3 or 4 or 5 feet up to a maximum of 12 feet? Is that your answer finally?

A. Yes, that would be about it, but that is, of course, a very rough estimate. I never tried to get an exact answer.

Q. You spoke of the number of buds you counted on the ground at one time under a typical or average tree.

Mr. Moore: I object to that. It wasn't buds; it was small apricots, Mr. Naus, assuming facts not in evidence.

Mr. Naus: Mr. Moore, I would be delighted if occasionally when you object you would let me finish a question.

Mr. Moore: Very well; go ahead, then, and then I will object.

Mr. Naus: Q. Mr. Packard, did you at some time count something on the ground under those trees? A. Yes.

Q. What was it?

(Testimony of Walter E. Packard.)

A. They were young cots.

Q. Were they counted on the ground under some typical or average tree?

A. I tried to get an average, yes, sir.

Q. Is your answer "Yes"? A. Yes.

Q. Yes. I understood you to say you counted them under what you call one-eighth of a pie section. A. Yes.

Q. A triangular section with the curved end of the pie? A. Yes. [569]

Q. You found 802? A. Yes.

Q. So you necessarily calculated that there would be roughly 6,416 under the typical or average tree that were thinned off?

A. I said under that particular tree, yes.

Q. I know, but that particular tree, was it or wasn't it selected by you as a typical or average tree?

A. It was selected as an average tree of those trees that were thinned, and as I said in my testimony yesterday, some trees were not thinned.

Q. Of the total 44 acres what proportion was thinned and what proportion was not?

A. I can't say, but there were some trees that were not producing well enough to require thinning, and consequently they were not thinned. And I made no attempt to make an estimate. Most of the trees, however, were thinned.

Q. When you say "most," approximately what percentage of the orchard?

A. I would say three-quarters of it.

(Testimony of Walter E. Packard.)

Q. Then this tree that you counted these cots under was a typical or average tree with respect to three-quarters of the orchard; do I now get it right? A. Yes.

Q. So that there would be 6,416 cots by calculation under the typical or average tree relating to three-quarters of the orchard? A. Yes.

Q. I understood you to say that if they had grown to cots of the size 12 to a pound that would be at the rate of 20 tons to the acre?

A. That is as I figured it, yes. [570]

Q. I will put it this way: Those cots that were taken off were what proportion of the total cots that were originally on the tree?

A. I have no idea.

Q. Could you estimate it now?

A. No. You see, an apricot tree will produce 20 times as many blossoms as could ever mature, and they always drop a very large proportion of the blossoms during one stage or another between the period of the first blossoming to the final ripening of the fruit, and so single trees may carry as high as 60,000 blossoms, and that gets into very, very large figures in tons per acre. So that I could not answer your question directly.

Q. Mr. Packard, we will get at that this way, then: When you estimate something or other on the basis of 20 tons to the acre on the ground, you know, do you not, that that is on the assumption that those cots that were thinned off the tree, if

(Testimony of Walter E. Packard.)

they had grown to a size 12 to the pound, would produce 20 tons?

A. Yes—no, no—under your assumptions, yes. They never would have grown to that size. They would have been very small.

Q. That is what I am coming to. As a matter of fact, the tree after thinning will grow in the aggregate to the same tonnage of fruit as if it had not been thinned by reason of the remaining cots growing larger?

A. The tonnage might have been a little smaller, but a great deal of the difference would be made up by having larger cots, but I can't tell you [571] exactly what the difference would be. There would still be a difference.

Q. At any event, thinning off at the rate you suggest certainly does not decrease the tonnage of a tree by 20 tons? A. Oh, no.

Q. As a matter of fact, after thinning to the extent it was thinned, did it make any substantial reduction in the product of the tree in tonnage of fruit?

A. Well, as I said before, I think it probably did make some difference in total tonnage, but the tonnage of fruit that he did get would be fruit of very much higher quality, but I rather think that the total tonnage, if he had allowed them on and they had been allowed to remain until they matured, even into small cots, would probably have been somewhat greater in tonnage, but it would be mostly seeds and small cots.

(Testimony of Walter E. Packard.)

Q. Speaking of apricots, without regard to the Pista orchard, and without regard to the year 1943, but all apricot trees in California in all years, is it or not the fact that apricots tend under favorable conditions to set heavily? A. Yes.

Q. Is it or not the fact year by year and in apricot orchards generally, that thinning is a very common practice from year to year?

A. Oh yes, yes, sir.

Q. Is it or not the fact that, speaking generally, apricot trees have to be thinned in order to produce nice fruit of a proper size? A. Yes.

Q. Is it or not the fact, with respect to the thinning that you [572] observed in the Pista orchard, as to the year 1944, that the thinning you saw was no more than was necessary and was entirely proper?

A. Yes, entirely proper, good practice.

Q. Now, you spoke of three things that in your theory or opinion caused the small crop in 1943. First was weather.

Mr. Moore: What date was that, Mr. Naus?

Mr. Naus: This is 475 and 476.

Q. In speaking of that, under your first ground, you spoke of the winter being unusually warm. Do you remember that? A. Yes.

Q. When you say unusually warm, you mean what temperature at what time?

A. I do not mean any temperature at any time, but compared with other years it was a warm year. The theory is—the scientists at the university and

(Testimony of Walter E. Packard.)

in the Department of Agriculture—that an apricot tree must have, as I recall it, about 900 hours of temperature below 40 during the dormant period in order to bring it through in a proper way, and when it drops below that total figure there is apt to be a weakening of the tree, and in 1942 and 1943, the winters of those two years, the winter was warm in relation to the requirements of apricot trees in Monterey County.

Q. 900 hours in the period from what date to what date, or from what stage of the tree to what stage of the tree?

A. During the dormant period of the winter from, I should say, the 1st of November to the last of January or into February, but [573] generally I think the last of January.

Q. Have you calculated the number of hours that the Pista orchard had below 40 in the winter in question?

A. I made an attempt to do it and I found that the number of hours was between five and six hundred, but I am not at all sure that I did that work accurately, because I had never attempted to do it before, and the figures came out so low that I rather think I must have been in error, but I took the records at the Army Air Base, where the temperatures, maximum and minimum, are recorded five times a day, and I added them all up, but I rather think that I did not do it in a proper way, and consequently I did not put much confidence in my own

(Testimony of Walter E. Packard.)

figures, but I did get about five or six hundred hours.

Q. You spoke of the Army Air Base; do you mean at Salinas? A. Yes.

Q. Are you prepared, as you sit there, under oath, to say definitely one way or the other whether the Pista orchard did or did not have 900 hours below 40 degrees in the dormant period from the end of 1942 to the end of the period in 1943?

A. No, sir, I am not, but I assume from my observations and studies and conversation with experts in that line, that it did not.

Q. Assuming, then, on your theory, whether it be true or not as to fact, but assuming it did have less than 900 hours below 40, I understood your answer from the transcript to be that that causes a falling of the buds, is that correct? A. Yes.

Q. Leaf buds and fruit buds? A. Yes.

Q. Does that mean cots? A. No.

Q. The warm winter, to characterize it in the way spoke of then, would result only in reducing the number of buds remaining that could blossom, is that correct? A. No, sir.

Q. What does it result in?

A. It would do that, and in addition it would extend the blossoming period out over a longer period, so that it would have those two effects. [574a]

Q. Let me see if I have the two effects right. If there were a warm winter in the sense that you have used the term, one effect would be to reduce the number of buds that would go into blossom,

(Testimony of Walter E. Packard.)

and, No. 2, extend the blossoming period of those that did blossom, is that correct? A. Yes.

Q. Then, in turn, the possibility of fruit setting would depend solely on what blossoms did come out on the tree in the spring of 1943, wouldn't it?

A. No, sir.

Q. What would it depend on?

A. Because the rainfall, the temperature and the foggy condition during that period created other conditions that also affected the number of blossoms that could finally develop into mature cots.

Q. I think perhaps you misunderstood me. You gave three reasons for the small crop. I am taking them up one at a time. I think you are now stepping into your second reason, aren't you?

A. I thought I had to in relation to the question you are now asking me.

Q. I just want to take the three things one at a time. I want to take, No. 1, the warm weather, and see what effect that would have.

A. The warm weather, as I stated in my previous testimony now, not referring to the warm weather, but to the warm period during the time of blossoming and just prior to blossoming, where you also had a very damp and rainy condition, where you had a warm, humid condition, you had a perfect climatic condition for the development of jacket rot, brown rot, [575] and other rots of that kind that did cause a very large drop of apricots in the State of California.

Q. Stepping that to the second matter of rain and rot, it already appears from the case, as I

(Testimony of Walter E. Packard.)

understand it, that you did not actually observe that in the blossom time of 1943?

A. No, sir.

Q. So you are reaching that theory or conclusion of rot in the way you speak about purely from theorizing?

A. No, sir.

Q. What do you base it on?

A. I base it on my conversation with Mr. Lewis, with Mr. Tavernante, the County Agent, Mr. Saunders, the agricultural agent in Hollister, with the County Commissioner in San Benito County, with Mr. Drew, as I recall his name, who is manager of the California Orchard Company, who told me that it was a warm, humid period that was perfect for the development of jacket rot; my talk with professors of the University, the man in charge of the deciduous experiment station in San Jose, and others who, I thought, were informed.

Q. Let me see if I have it right now. Earlier today or this morning you testified never in your life had you seen rainfall on an apricot orchard in blossom time.

A. Did I say that? I do not recall of having done it. I mean I do not recall of ever having seen that.

Q. That is it. No. 2, you did not see the Pista orchard in the spring of 1943, so it comes down, then, does it not, to your basing your judgment only with respect to rot on a lot of [576] conversations you have had with a great many people?

A. No, sir.

(Testimony of Walter E. Packard.)

Q. What does it depend upon besides that?

A. It depends on the records of the weather, on rain, on temperature, on the number of clear and cloudy days, and upon my conversation with scientists who were studying that particular problem for that particular year in that particular county.

Q. The weather bureau records would not tell us a word about rot.

A. I did not say they did. They did tell me about the conditions that existed in Monterey County at that time.

Mr. Naus: If the Court please, in view of the present answers of the witness, I move to strike out his opinion on direct examination that the shortage of the crop on the Pista orchard in 1943 was due in part to the presence of the rot condition that he has spoken of, upon the ground that it now appears that the basis of the witness' testimony in that respect is simply hearsay.

Mr. Moore: We object to that, your Honor. What particular testimony given yesterday or today, Mr. Naus?

Mr. Naus: The testimony given at any time, and starting on pages 475 and 476 of the transcript, where, in the course of giving what he calls three reasons for the short crop on the Pista orchard, he gives as a second reason the development of jacket rot and of brown rot.

Mr. Moore: Will you just point out in here where he says [577] anything about that at this page of——

(Testimony of Walter E. Packard.)

Mr. Naus: If the Court please, I will put it differently.

Mr. Moore: I think you should, because if we are going to strike evidence, we should find what we are striking.

Mr. Naus: I will put it this way, then: The witness has referred to it at different times. I will move to strike out his testimony in the context on pages 475 and 476, where he gives as the second of his three reasons for the shortage of the crop on the Pista orchard in 1943, the development of rot conditions in the form of jacket rot and brown rot; I move to strike it out not only there, but wherever he has stated or repeated anywhere else that statement in the record.

The Court: The Court is prepared to rule; for the purpose of the record the motion is denied.

Mr. Naus: Q. Now, when you speak of jacket rot, Mr. Packard, it is a rot of what vegetation connected with the tree? A. Of the blossom.

Q. The original jacket of the bud, itself?

A. No, it is a disease that affects the young cot as it is developing. It develops in the flower and then goes down into the fruit and then the fruit drops off.

Q. When you used the term "jacket rot" on your direct examination, you meant what jacket? Jacket of what?

A. The apricot when it develops carries the whole calyx with it, and as the cot develops this just pushes out and remains on the top of [578]

(Testimony of Walter E. Packard.)

cot until the wind or something else knocks it off, and consequently it forms a little jacket on top of the young cot, and that includes the remaining part of the blossom, which is simply pushed out as the apricot grows, and this particular fungus disease develops in that jacket and gets down through the cot and then the cot rots and falls off.

Q. My question was, the jacket of what, and as I now understand it, you mean the jacket of the cot, is that correct?

A. It is known as jacket rot. Everybody calls it jacket rot.

Q. But it is the rot of the jacket, isn't it?

A. It is the rot of the apricot and the jacket, both.

Q. What is brown rot, a rot of what?

A. Brown rot is mostly related to green rot, but it is a rot that develops in the tree, itself. The jacket rot develops in the ground and the spores are not carried over and do not develop in the tree. Brown rot is actually carried in the tree, and the brown rot will go down through the cot into the branch and through the twig and will not only kill the cot, but will kill the twig, and I saw evidence of that on the Pista orchard in 1943.

Q. What evidence did you see?

A. I saw cots that were rotted by brown rot, and I saw twigs that were killed by brown rot.

Q. To what extent with respect to the whole orchard? A. Not to any great extent.

Q. I know, but that still is general. To what

(Testimony of Walter E. Packard.)

extent with respect to the whole orchard did you find jacket rot or brown [579] rot present?

A. I didn't say I found jacket rot. I was not there at the time of the year when I could determine that, but I did see the carry-over of the brown rot, and the evidence I saw was very meager. The orchard had been sprayed to control brown rot. Spraying does not control the green rot. It is not recommended as a control except in a sort of accidental way. But the spraying will control brown rot very largely, and the orchard was sprayed and it did very largely control the brown rot that year, apparently, although I did see evidence of it.

Q. Let me see if I can get at it specifically in some way: In the Pista orchard in 1943 there were some 3000 to 3100 apricot trees, weren't there?

A. Yes.

Q. Out of that 3000 or 3100 apricot trees in the Pista orchard, with respect to how many of those trees did you see evidences of brown rot?

A. Very few.

Q. How many would be your top estimate?

A. I don't suppose—I didn't make any estimate, I didn't make any attempt to make a survey of it. All I did was to find out if I found it or not, and I suppose I saw it on perhaps ten trees.

Q. Ten? A. Yes.

Q. As you sit there now, are you prepared to say that in the year 1943 there was visual evidence of brown rot in the Pista orchard affecting more than ten of all the trees?

(Testimony of Walter E. Packard.)

A. No, not of my own observation. [580]

Q. And you have never seen visual evidence of jacket rot in that orchard with respect to the year 1943, have you? A. No.

Q. Now, with respect to the third reason, you could summarize that, generally, could you not, under the heading of rainfall during the period of bloom? A. Yes.

Q. Wasn't there a period of bloom after the last heavy rain during the blooming period generally?

A. Yes, and that, of course, is my reason why—for saying that the third bloom set. The third bloom came after the heavy rains and continuous rains had stopped. At that time the days became clear, and when they became clear you got rid of that mucky, warm weather, or the temperature at night dropped very much below the temperatures in the previous period, dropped down to 38, 27, in there, in the night time, and in the day time you had bright days, and the heat of the direct sunlight had more to do with the opening and the proper fertilization of apricot trees than does the temperature, itself; so during those clear days when the sun hit the blossoms directly it not only dried the pollen out so that it was available for pollination, but it also enabled the bees to go through the orchard and carry on their process in helping this pollination process.

Q. Mr. Packard, in the year 1943 was there any difference in rainfall as between the Pista and An-

(Testimony of Walter E. Packard.)

derson orchards, on the one side, and the Bardin and the Sterling orchards, on the other?

A. I can't say for sure. I have nothing, no evidence on that. [581] However, I have made this observation that the green rot, if I may go back to that——

Q. I would rather you stayed with the question, unless you think it is responsive to the question.

Mr. Moore: He has a right to explain his answer.

A. It was in relation to the effect of the climate. The Bardin orchard is farmed in better fashion than Mr. Pista's orchard. This year it was plowed a week or ten days prior to the time that Mr. Pista's orchard was plowed. Mr. Pista's orchard was plowed later than any orchard I saw in the area. Now, the green rot will develop in unplowed ground. One of the ways, and the fact is the only practical way that scientists know of, of controlling the green rot, is to plow the land early to destroy the small growth that is in the soil that gives rise to the spores that spread onto the trees, and in 1943 it is possible that the same condition that I observed in 1944 existed then.

I also, in talking over the situation with the county agents, found that the condition over the counties—I mean now in Monterey and San Benito Counties—varies a good deal. It will run a little more in one place than in another, and a very few days in the period of blossoming between different orchards will make a very big difference in the

(Testimony of Walter E. Packard.)

setting of the bloom. In San Benito, for example, they had some orchards yield five and six tons per acre, and their average was the lowest in their history, but other orchards yielded practically nothing at all, [582] and there, their explanation was, they could not say—they could not give all the reasons, but one was they bloomed at different periods, and consequently were affected by the climate in different ways.

Q. Mr. Packard, we seem to have wandered far from the question, so I would like to have that particular question answered. I will re-state it perhaps in different form, because I do not recall exactly how I phrased it. As you sit there under oath, do you or not know of any difference whatever in respect to the rainfall in the year 1943 between the Bardin and Sterling and the Anderson and Pista orchards? A. No.

Q. There is a defendants' Exhibit X for Identification that Mr. Moore showed you yesterday, and I would like to find out something more about it. Here it uses the phrase, "Basis, naked fruit." Can you tell me what that phrase means?

A. I cannot say for sure. I might surmise, however, that it means net weight, although I do not know exactly what the term "naked" means in this particular connection. I presume it means the net weight of the fruit outside of the box, but I don't know.

Q. Don't you also presume it means the return on the fruit after subtracting the cost of the box in packing? I am simply trying to find out what

(Testimony of Walter E. Packard.)

it means, because if I can find out what it means I might accept the exhibit. Reading it now I don't understand it.

A. As I understand it, the price received, as it says here, by the grower at point of delivery—that means he [583] received so much for the net delivery of apricots at the first point of delivery.

Q. I am trying to find out whether or not you understand that phrase to mean the return for the apricots to the grower after subtracting the cost of the boxes, boxing, grading, and the like.

A. No, not at all.

Q. You do not know one way or the other?

A. No, sir. It is the gross return that he received; it has nothing to do with the cost.

Q. I do not know whether it means that, or not. The final answer is you do not know what the phrase "basis, naked fruit" individually means?

A. I do know it does not mean the net price, that it does mean the gross price.

Mr. Naus: That is all from this witness.

Redirect Examination

Mr. Moore: Q. Mr. Packard, you were asked whether you observed any evidence of jacket rot on the Pista ranch when you first visited it in July. Assuming that there had been jacket rot in the blossom time, would there be any evidence of it left in July? A. No.

Q. In other words, in July, even though there had been a great amount of jacket rot, there would have been no evidence there at all at that time, is that correct? A. Yes.

(Testimony of Walter E. Packard.)

Q. By your observation in July and your statement that you observed no jacket rot, you do not know whether there was or was [584] not jacket rot there, except perhaps what you may have heard? A. Yes.

Q. Of your own knowledge you do not know?

A. Yes.

Q. You also said that you did find some evidence of brown rot in July? A. Yes.

Q. And that the orchard had been sprayed?

A. Yes.

Q. Could you see evidence of spraying? How do you know it had been sprayed?

A. I could see evidence of it.

Q. If there had been brown rot there what effect would passage of time to July when you first visited and the effect of spring have on the evidence that would be left, as to whether or not there was brown rot in the pollination period?

A. The spraying for brown rot is not always completely effective, and, in fact, seldom is. Very frequently there are some twigs, some blossoms, and some fruit that is not controlled by the spray, and the evidence that I saw came from the portions of the trees that were not controlled by the spray, although most of the trees were controlled.

Q. I think you misunderstood the purpose of my question. What I am trying to find out is this: You say you estimated from your observation that there was evidence of brown rot on perhaps ten trees?

(Testimony of Walter E. Packard.)

A. I did not look for more. I was just looking for evidence of the brown rot. I did not try to make a survey.

Q. What I am trying to get at is, if there was brown rot in that orchard in February would the evidence remain until July? A. Yes. [585]

Q. That is what I wanted ot clear up. Mr. Packard, I hand you a photostatic copy of what purports to be a page out of some document showing 1927 1173 cement and other building materials. I call your attention to the middle of the page, to a paragraph about an inch and a half long, headed "Influence of cement dust on vegetation." Can you tell us from what source you got that?

A. Yes, I got this out of the Chemical Abstract of the Live Science Building and Library at the University of California.

Q. What are the Chemical Abstracts? Whom are they published by, do you know?

A. I think by—I don't know exactly who does publish them, but it is the standard reference for all articles dealing with chemistry. It is a book five or six inches thick for that period, and there is a long series of them. It is the standard reference book for articles dealing with chemical problems.

Mr. Moore: I will ask that this be marked for identification.

(The document was marked Defendants' Exhibit Z for Identification.)

(Testimony of Walter E. Packard.)

Mr. Moore: Q. That is published in America, is it? A. Yes.

Mr. Moore: We will offer at this time, your Honor, Exhibit Z for Identification, together with Exhibit W for Identification, being the "Influence of Cement Dust on Vegetation," by Professor Ewert, who, it has been testified here, was a well-known German scientist on this subject, together with this photostatic [586] copy from the Chemistry Magazine that Mr. Packard has referred to, which on page 1927 refers to this particular work. I am merely giving the name of the author and a summary of it, which shows that it has been recognized as a scientific work in a scientific magazine, and I believe under the rules scientific works are admissible in evidence, and we will therefore offer these two exhibits, together in evidence, after having been identified.

Mr. Naus: If the Court please, I object to the offer of Defendants' Exhibit Z for Identification upon the ground, first, that it is hearsay, second, that it is secondary evidence. I object to the offer of Defendant's Exhibit W for Identification upon the grounds, first, that it is hearsay, and, second, that it appears to be secondary evidence.

Mr. Moore: Our position is, your Honor, all scientific works—they do not have to be published in a magazine or in a book or in book form—are admissible in evidence under the general rules of evidence.

The Court: He is entitled to the best evidence.

(Testimony of Walter E. Packard.)

As long as there is an objection, there is nothing for me to do but sustain it.

Mr. Moore: No further questions.

Mr. Naus: That is all.

Mr. Moore: That is all. That is our case, your Honor.

Defendant rests. [587]

Mr. Naus: I will call Mr. Miller.

MAX MILLER

called for the plaintiff in rebuttal; sworn.

The Clerk: Will you state your name.

A. Miller.

The Clerk: Your first name?

A. Max Miller.

Direct Examination

Mr. Naus: Q. Mr. Miller, in the year 1943 just before blossom time or at or about blossom time in the Pista apricot orchard did you or not do any work in that orchard?

A. Yes, I did.

Q. And what work?

A. I had charge of the spraying.

Q. Now, did you in addition to your own personal service furnish any equipment during that period?

A. I did, yes.

Q. What?

A. I furnished the tractor and——

Q. What size tractor was it?

(Testimony of Max Miller.)

A. 22 Caterpillar.

Q. 22 Caterpillar. What does the "22" mean?

A. Well, horsepower.

Q. You did the spraying. Did you keep any diary or book record at the time of the dates that you worked? A. Yes, I did.

Q. Have you that record here of the dates that you sprayed in the Pista apricot orchard?

A. I have.

Q. In 1943? A. Yes, I have.

Q. You have handed me a book that has numbered pages. A. This is the page here. [588]

Q. Page No. 70?

A. 70, yes. It says right here, "Spray, Salinas." That means the Pista ranch.

The Court: Q. What is your business or occupation?

A. Well, I am doing farming and also commercial work with tractors.

Q. Specializing in spraying?

A. Yes, I have been taking care of Mr. Pista's orchard for several years doing the spraying.

Q. Your work for him is limited to spraying?

A. I work for him also with my tractor.

Mr. Naus: Q. On what dates in 1943 did you spray the Pista orchard?

A. I sprayed February 17—I sprayed the 17th; I sprayed the 18th; I sprayed the 19th; I sprayed the 20th; I did not spray the 21st; I sprayed the 22nd, the 23rd; not the 25th; I sprayed the 24th; not the 26th; the 27th, and 28th.

(Testimony of Max Miller.)

Mr. Moore: Pardon me just a minute. I don't like to interrupt, but with him saying "not" I got mixed up here.

Q. Will you start at the 22nd again, please?

A. I sprayed the 22nd and the 23rd and the 24th, but not the 25th or the 26th. I sprayed the 27th and the 28th, and the first two days of March, the 1st and the 2nd.

Mr. Naus: Q. You did spray?

A. Yes.

Q. Now, did you or not spray the whole of the apricot orchard 44 acres? A. Yes, I did.

Q. Did you or not spray any part of it more than one time? [589]

A. I did, yes.

Q. Roughly what part of the orchard was it that you sprayed more than one time?

A. About in the center of the orchard, I would say.

Q. About what area in acres?

A. Oh, about eight acres.

Q. The other 36 acres away from the center, did you spray that just once, or more than once?

A. Just once.

Q. By what date did you finish the first spraying of the whole orchard?

A. I finished on the 27th day of February.

Q. And on what dates did you spray a second time this center portion of eight acres?

A. Eight acres.

Q. What were those dates?

(Testimony of Max Miller.)

A. The 28th of February and the 1st and 2nd of March.

Q. Now, what kind of a mixture was it that you were spraying on the trees in all that period?

A. I used a mixture of Bordeaux and lime.

Q. It was Bordeaux mixture in what proportions?

A. Well, we used 40 pounds of lime and 40 pounds of Bordeaux to 400 gallons of water.

Q. When you say 40 pounds of Bordeaux to 400 gallons of water, do you mean that blue-looking stuff?

A. Yes.

Q. That would be known as a 5-5-50 mixture, wouldn't it?

A. Yes, that is what we call a 5-5-50 mixture.

Q. Now, during all of those dates that you were spraying from the beginning to the end, ending, I think, on March 3, you have [590] told us——

A. March 2.

Q. March 2. ——ending March 2, what was the condition of the trees with respect to buds or blossoms and the like?

A. Well——

Q. What stage had they reached?

A. The blossoms—what stage had the blossoms reached?

Q. If they had reached blossom. I want to know what period of life was reached then.

A. The bloom was in the pink in the early stages of the bloom—at the pink.

Q. Is that what is sometimes called pink bud?

A. Pink bud or popcorn stage, sometimes we call it.

(Testimony of Max Miller.)

Q. Pink bud or popcorn stage?

A. Yes, pink.

Q. Was or was not the orchard in white blossom at the time of the spraying?

A. No, it was not in white blossom, no.

Q. Subsequently to the completion of that spraying were you or not in the Pista orchard from time to time? A. Yes.

Q. Did you have some other activity around there? A. Yes.

Q. What was it?

A. I raised a crop of beans in '42 and '43 between the young trees. There is a portion in one end of the orchard there are young trees.

Q. In other words, outside of the 44 acres of bearing trees there is a new piece of reclaimed land along the Gabilan Creek where there are little trees? A. Yes.

Q. That is about how many acres?

A. I should say six.

Q. You were intercropping beans between those little apricot [591] trees? A. Yes.

Q. Is that correct? A. Yes.

Q. Now, from time to time as you were in that bean field of yours did you observe as to how long the white blossom period extended in the Pista apricot orchard? A. You mean in the apricots?

Q. Yes. A. You mean the white bloom?

Q. Yes.

A. Oh, I would say maybe three weeks.

Q. Beginning about what date?

(Testimony of Max Miller.)

A. Well, that would be after the spraying. It takes—you see, after the spraying it probably takes several days before they got into the full bloom. I would say—well, I finished the 2nd of March; I would say it would take several days; maybe around March 10 they would reach their full bloom stage. I am not positive.

Q. Beginning March 10 how long did the white blossoms last from then on?

A. Usually about three weeks.

Q. Now, from the time you began spraying in that Pista orchard on February 17, 1943—

A. Yes.

Q. —from there until the end of this white bloom period that you have mentioned, state whether or not dust from the Permanente stacks was falling on that orchard.

A. Yes, it was falling at certain times.

Q. Can you describe the appearance of it and the quantity of it in some way?

A. Well, that depended on the wind. If the wind was blowing toward the Pista ranch you could readily [592] see it coming; but if the wind was—the column was going straight up, it kind of come out more easy.

Q. State the frequency of wind from day to day from the stack over toward the Pista orchard during these dates we have mentioned.

A. Well, I didn't pay—I noticed every day I would see it sometime during the day coming towards the Pista ranch.

(Testimony of Max Miller.)

Q. Blowing from the stacks toward the Pista ranch? A. Yes.

Q. By the way, how many hours a day did you run your tractor?

A. Oh, some days ten; all the way from nine to ten hours a day.

Q. In the daytime?

A. In the daytime, yes.

Q. What was done with the tractor at night time?

A. Well, it stood idle; drove it up to the buildings and let it set there.

Q. Out in the open? A. Yes.

Q. How many hours would it be standing still at night out in the open?

A. Well, there would be about 12 or 14 hours—about 14 hours.

Q. In the morning when you came back after it had been standing for 14 hours, what if anything did you observe as to this Permanente dust on top of the tractor?

A. It could be readily seen if I brushed my hand on it.

Q. Could you describe the quantity of it as you looked at it and dusted it off, so that his Honor could understand what you mean?

A. It was all over the tractor. I would take my hand [593] and brush it. You would get dust on your hands.

Q. Was it simply spotted over the top of the tractor, or was it completely covered on the top of the tractor?

(Testimony of Max Miller.)

A. The top was covered. I wouldn't say it was spotted; I would say it would be uniform.

Q. Did you spray at any time when it was raining?

A. No, no, we don't spray in the rain.

Q. At the time when you were spraying did or did not any part of your tractor ever come in contact or collision with some part of a tree or branch and shake it? A. Well, yes, during——

Q. When that happened did or did not any dust fall from the trees?

A. Yes, especially later on when there was more foliage on the trees.

Q. Could you describe the apparent quantity of it to his Honor?

A. Well, later on, when there was more foliage out working in the orchard, the tractor coming in contact with a limb and gave it a kick, you would naturally knock that dust off, and I know it would get in my eyes and smart in my eyes.

Q. Well, it would make your eyes smart. Could you describe to his Honor some common substance that one gets in one's eyes at times that would feel like this substance?

Mr. Moore: Just a minute. Just a minute. I am going to object to the question as apparently leading right to start with.

Mr. Naus: That isn't leading. I am asking him to compare [594] the smarting with some common substance that we are all familiar with. I haven't named the substance.

(Testimony of Max Miller.)

Mr. Moore: I didn't understand the question. I withdraw my objection.

Mr. Naus: Q. Did you understand the question?

A. No, I did not.

Q. You say that when this Permanente dust came in your eyes, your eyes smarted?

A. Yes.

Q. I am asking you if you can think of any common substance that one gets in one's eyes as he goes through life that would make your eyes smart like this Permanente dust felt?

A. Well, I really don't know.

Q. If you can't, we will pass on. I just thought perhaps you might.

Now, did or did not this dust fall on your bean crop? A. Yes, it did.

Q. Had you or not grown the same kind of beans on the same ground the year before?

A. Yes.

Q. Over the same acreage? A. Yes.

Q. Was or was not your bean crop in 1943 as much or less or more than the one in 1942?

Mr. Moore: I am going to object to that as incompetent, irrelevant and immaterial. We would have to go into the horticulture of beans, because what might affect one particular vegetable or tree or something may be entirely different from [595] another.

Mr. Naus: I will withdraw the question, then, rather than prolong the case.

(Testimony of Max Miller.)

You may cross-examine.

Mr. Moore: No questions.

The Court: Step down.

(Discussion off the record.)

F. E. TWINING

recalled in rebuttal; previously sworn.

Direct Examination

Mr. Naus: Q. Mr. Twining, since you left the stand last week you again visited the Pista orchard?

A. Yes.

Q. Currently, at the request of Mr. Harrington and myself? A. Yes.

Q. On what date most recently have you been in the Pista orchard? A. Day before yesterday.

Q. And at that time was or was not dust coming from the Permanente stack?

A. No, I don't think so. The kiln was not in operation; there was dust around the ground, but nothing from the stack.

Q. Did you or not test the recent deposit of dust in the Pista orchard from the Permanente stack to determine the presence or absence of any oxide?

A. Yes.

Q. Did you or not test day before yesterday right in the Pista [596] orchard itself recently fallen dust from the stack to determine the presence or absence of hydroxide?

(Testimony of F. E. Twining.)

A. Well, the alkalinity would be oxide and hydroxide.

Q. All right. Now, upon that actual examination right within the orchard of dust freshly fallen, what did you find with respect to the absence of oxides and hydroxides?

A. They were present in the dust.

Q. In the dust—you mean the Permanente dust?

A. Yes, that is, the dust on the trees and vegetation there.

Q. State from your inspection whether you can say one way or the other whether the Permanente dust—out of the Permanente stack—had fully carbonated by the time it landed on the Pista vegetation.

A. A considerable portion of it has not. It carbonates very slowly.

Q. Now, state just how you went about this test, what you as a chemist did to make the test.

A. On the original tests we determined that there was oxide and hydroxide present in the dust.

Mr. Moore: Just a minute. I thought you—I will withdraw my objection.

Mr. Naus: May we have the question read, your Honor?

The Court: Read the question.

(Question read.)

Mr. Naus: I mean this recent one day before yesterday.

A. We used indicators—certain indicators that show whether [597] the solution is alkaline.

(Testimony of F. E. Twining.)

The Court: Q. Tell us what they were.

A. We used phenol red and phenolphthalein, two different indicators I used.

Mr. Naus: Q. How were they used, Mr. Twining?

A. Well, they are the solutions that we add to a solution of the dust to determine whether it is an oxide or hydroxide. We make a watery solution, we use the indicators and from the color we know whether it is acid or alkaline.

Q. Then the chemical reaction is one of color, is it?

A. That is right.

Q. What color did you get reacted there to determine the presence——

A. In both cases we get a red—deep red.

Q. By the way, there has been a reference earlier today to dropping hydrochloric acid on these dusted leaves. What, if anything can be determined as to the presence or absence of carbonate, oxide or hydroxide by putting a drop of hydrochloric acid on a leaf, a drop the size that comes out of an ordinary eye-dropper?

A. Dropping an acid on a carbonate produces an effervescence, and to the oxides and hydroxides there would be a little heat generated, but it wouldn't be apparent on such a small quantity of stuff. It would convert the oxide and hydroxide into chlorides, but it wouldn't be noticeable.

Q. State whether or not in the tests that you made in the fields as to recently fallen dust, the test you made a day or [598] two ago, whether the oxide

(Testimony of F. E. Twining.)

and hydroxide you found present was of a nature and a sufficient quantity to interfere with pollination and fertilization if dropped during the blooming period.

A. That would depend on the quantity, of course, and the amount of moisture present.

Mr. Naus: You may cross-examine.

Cross-Examination

Mr. Moore: Q. It was your opinion, Mr. Twining, when you rendered your original report on March 31, 1944, that there would be sufficient hydroxide or dioxide to interfere with the coming crop, is that correct?

A. Well, that dust on the or in the blossom would certainly affect it.

Q. Was that your opinion on March 31, 1944?

A. Not only my opinion, but actual knowledge.

Q. All right. In other words, I will read you from this: "It was shown that dust from the Permanente plant was being slowly deposited at time of investigation, March 14"—I assume that is March 14, 1944?

A. That is right.

Q. "—and that damage to this year's crop will occur."

A. Yes.

Q. And then the supplemental report of yours, I believe, states there wasn't any—May I have the supplemental report? I will ask you, Have you examined that orchard?

A. You mean since that date?

Q. Yes. A. Yes, I have examined it. [599]

(Testimony of F. E. Twining.)

Q. Are you of the opinion that there was damage to that crop in the year 1944?

A. I stated that the damage would be small, because the amount was very small.

Q. In other words, in your supplemental report after the harvest you state—you changed your mind practically and you say, “It is going to be rather difficult to assess the damages for this season for the crop is large and in fairly good shape.”

A. That is when the crop had set. We couldn’t tell on March 14 what sort of a crop it was.

Q. But you were of the opinion, then, that it would damage the crop?

A. Well, in my own experience over a period of years with dust of that type, I know that there would have been some damage.

Q. It was your opinion on March 14 it would damage the crop, is that correct?

A. That is right.

Q. Then after the harvesting you changed your mind and you say, “The crop is large and in fairly good shape?”

A. Yes; but I didn’t say there wasn’t any damage.

Q. All right. Now we come to your testimony that has just been given. You say when you were down there the kilns were not operating.

A. Tuesday.

Q. And yet you say you took freshly fallen dust.

A. Well, that may have been two or three weeks old. Sometimes it don’t carbonate for months.

(Testimony of F. E. Twining.)

Q. Now, do I understand you—what do you mean by “carbonate?” [600]

A. I mean that it is—the hydroxide unites with carbon dioxide to form a carbonate. That may take a long time; it depends on the amount of carbon dioxide in the atmosphere and the condition of oxide or hydroxide.

Q. Well, very small particles of magnesium oxide or calcium oxide passing out in the form of dust, don't they start to carbonate the moment they come in contact with the air?

A. The moment they come in contact with carbon dioxide, of which there is a very small amount in the air.

Q. Will you please answer my question: Don't they commence to carbonate as soon as they come in contact with the air?

A. You might say “commence,” yes.

Q. As a matter of fact, they commence going up the stack there even before they come in contact with the air?

A. No, I think not.

Q. In other words, you disagree with Professor Duschak?

A. Not at a temperature of 900 or 1000 or more. There would be no use calcining it if it carbonated at those temperatures.

Q. I am asking you if they don't commence as they go up the stack. Don't they commence to pick up carbon dioxide?

A. Not at the stack temperatures.

Q. You are positive of that? A. Yes.

(Testimony of F. E. Twining.)

Q. Were you here and did you hear Dr. Duschak's testimony? A. No.

Q. In other words, when they come into the air they commence to [601] pick up carbon dioxide, is that true? A. Yes.

Q. And there is a very considerable amount of carbon dioxide in the air, is there not?

A. Not very much.

Q. Would you say one of these fine particles could take three or four months before it turned into a carbonate?

A. It would depend a lot on whether it was protected or not.

Q. What do you mean by "protected?"

A. If the dust happened to be rather heavy it could be protected.

Q. I am asking about the little particles flying through the air. Are they protected?

A. At that time we haven't enough carbon dioxide to react on that amount of dust.

Q. That would depend entirely upon how far they traveled, too, through the air?

A. The amount of carbon dioxide would have some bearing on the amount of carbonation, of course.

Q. Well, would that carbonation take place?

A. Carbonation would take place between the carbon dioxide and the particle.

Q. What part of the particle would first become carbonate? A. On the outside.

(Testimony of F. E. Twining.)

Q. As time went on that shell would harden, would it not? A. Yes.

Q. And that shell would be a neutral, then, would it not?

A. Well, the shell would of course—if it was a neutral carbonate it would be neutral.

Q. Wouldn't it be a neutral carbonate?

A. Not necessarily.

Q. What other kind of carbonate is there?

A. Bicarbonate [602] is alkaline.

Q. What would the shell be? Would it be carbonate, bicarbonate, or what kind of carbonate?

A. It might be either or both.

Q. What in your opinion happens when that little particle comes in contact with the air and picks up carbon dioxide?

A. It is first hydrated, and then due to the amount of exposure to carbon dioxide, it will slowly carbonate.

Q. Is that carbonate that would form as a shell neutral or not?

A. If it is entirely carbonate, it is neutral.

Q. If it is entirely carbonate? A. Yes.

Q. If that little deposit with an outside shell that is carbonate were deposited on the stigma of a plant, is it your opinion that that would kill fertilization?

A. Well, if it is entirely carbonate, it isn't very dangerous; it is more of a mechanical proposition, although if there was enough of it on a stigma, the secretion of which is acid, it might dissipate a cer-

(Testimony of F. E. Twining.)

tain amount of carbon dioxide and you would get an organic salt of lime or magnesia.

Q. In other words, it is your opinion that it possibly could?

A. It could cause some damage if there was enough of it.

Q. What is your Bordeaux mixture made out of?

A. The Bordeaux mixture is made of copper sulphate and hydroxide of lime.

Q. Calcium hydroxide? A. Yes. [603]

Q: Now, that is sprayed many times during the blossoming season, isn't it.

A. Well, it may be one or more times, yes.

Q. Doesn't that spray go into the blossom?

A. Yes; ordinarily they don't spray it right into the blossom.

Q. If they spray around the tree will you tell me how they are going to dodge the bloom if it is heavily laden with bloom?

A. Ordinarily that is before the blossoms open up.

Q. It isn't uncommon to spray while they are in bloom?

A. I might answer the question, if he blossom is open and the spray gets in there in sufficient quantity it will prevent pollinization.

Q. I will ask the question again: It isn't an uncommon practice to spray during blossom time?

A. Yes, with small amounts.

Q. What do you mean by "small amounts"?

A. That is weak solutions.

(Testimony of F. E. Twining.)

Q. At least we have a common ground. And that is when the tree is in bloom at times, isn't it?

A. I have known it to be used at times.

Q. What pressure is usually used to spray that tree?

A. Well, that might vary from an ordinary hand spray pump up to a power sprayer, three or four hundred pounds.

Q. What is the practice?

A. It depends a little bit on a man's orchard. Very large orchards, they have regular spraying equipment.

Q. Yes. This is sprayed on the tree with pressure in blossom [604] time, isn't it?

A. Sometimes, I say.

Q. Well, that is what I am getting at. I am speaking of that time. Why is it, then, with that sprayed in there in these blossoms under pressure that that calcium dioxide does not kill all the blossoms on the tree?

A. Well, there isn't enough of it, not enough soluble lime.

Q. It is a fact, is it not, that ordinarily after an apricot tree has been sprayed it looks almost like it was covered with snow—isn't that its general appearance?

A. White or bluish color.

Q. Well, if you should ride by and notice it, it looks like it was covered with snow?

A. Ordinarily the Bordeaux mixture isn't white.

Q. But it gives that appearance, doesn't it?

A. Well, at a distance, yes.

(Testimony of F. E. Twining.)

Q. Ordinarily when they put the spray on they put it in thoroughly, don't they?

A. Supposed to.

Q. Then why is it that under those circumstances all the blossoms on the tree are not killed?

A. Because they don't get enough.

Q. But yet do I understand from you that this little drifting cloud of possibly or practically the same material that drifts gradually in there, in your opinion, it will kill the fruit?

A. Well, there is no question about it.

Q. That is your opinion?

A. Not my opinion; actual knowledge.

Q. Well, one will and one won't?

A. Well, I have seen [605] damage from spray.

Mr. Moore: That is all.

Mr. Naus: No further questions.

WILLIAM LEWIS

recalled in rebuttal; previously sworn.

Direct Examination

Mr. Naus: Q. Mr. Lewis, on your actual personal visits into the Pista orchard in the spring of 1943 and around blossom time in 1943, was there or not jacket rot present in that orchard?

A. To a very small extent. There were occasionally cots that I would find jacket rot on.

Q. Well, in describing the extent with respect

(Testimony of William Lewis.)

to the whole orchard of say 3,100 trees, can you define it in quantity?

A. I have got an estimate. I made an estimate including the Salinas area and the Prunedale of from one to two percent jacket rot in the year 1943.

Q. All right. Was the jacket rot in the Pista orchard in excess of that one to two percent in the county generally?

A. No, it was not.

Q. Pardon my ignorance, but when you speak of one to two percent of jacket rot, does or does not that mean that 98 to 99 percent of the blossoms, cots, and the like are free from jacket rot?

A. That would mean that, yes.

Q. Now, I call your attention to Defendant's Exhibit O, the [606] Monterey County statistics for the years 1938 to 1943, both inclusive. You are familiar with them, are you?

A. Yes, I am on the fruit part of it. I compiled it myself.

Q. You are familiar with the part of these statistics that relates to apricots in Monterey County, are you?

A. Yes, I am.

Q. Did you or not personally prepare the statistics?

A. I did.

Q. As to apricots? Take the acreage, the producing acreage of apricots reported in there year by year, as producing a certain number of boxes. Is it correctly reported for each of the years?

A. The acreage—fruit acreage, tree acreage of Monterey County—I cannot give the date, but it was sometime around 1920 or before—1940, par-

(Testimony of William Lewis.)

don me on that '20 was compiled by the WPA, a U. S. project. From that time if an orchard was pulled or additional orchard added, it was allowed in that year's report. In 1943—the spring of 1943—the State Department sent a man in for to help out, and he checked the whole area to see whether we had taken out all the orchards that was pulled, whether we had eliminated orchards that should have been eliminated as non-bearing or as abandoned orchards, and if we added the orchards that came into bearing. From his figures and from the WPA figures—they are the figures that is used here with the exception of some of them years. From the time they compiled that the first time, any orchard that I knew was removed, I removed from the [607] acreage, or any orchard that I knew that came into bearing I added to the acreage, so the acreage would change from year to year.

Q. Now, when you testified before, you spoke about the general supervision you had over the Bardin orchard. In that Natividad-Alisal area was there any other apricot orchard over which you had supervision at the same time?

A. I believe I used the word "advice."

Q. Advice or whatever it was.

A. Since the spring of 1941 on the Bardin orchard I have been advising, and from the fall of 1941 I advised on the Anderson orchard. I have been called in a number of times on the Pista orchard for advice.

(Testimony of William Lewis.)

Q. Now, when you say the Anderson orchard, you mean the one named as such——

A. Leo Anderson.

Q. —in this photograph on Plaintiff's Exhibit 2?

A. Yes, I do.

Q. In keeping the Anderson and Bardin orchards under your personal observation in the year 1943 for the purpose of advising the respective growers and owners, is there any difference in condition between the Anderson and Bardin orchards thus observed by you other than the condition of Permanente dust?

Mr. Moore: I think that is objectionable, your Honor, not proper rebuttal. I don't know what he means by it. I object to it as not understandable. What do you mean?

Mr. Naus: I mean this, if the Court please——

Mr. Moore: The way the trees are planted, the number of feet between them? Just what do you mean?

Mr. Naus: Have you finished, Mr. Moore?

Mr. Moore: I say, I think that question is ambiguous.

Mr. Naus: I say, have you finished so I can make a complete statement?

Mr. Moore: Yes, I have finished.

Mr. Naus: I mean this——

The Court: I suggest you reframe your question.

Mr. Naus: Yes. Thank you, your Honor. And before framing it I will say that it was not until

(Testimony of William Lewis.)

after the witness had left the stand before that I learned for the first time, so far as I am personally concerned, that his attention he gave to the Bardin orchard was duplicated with respect to the Anderson orchard, so if there is any question of improper rebuttal, I will move to reopen for this one question.

Mr. Moore: All right. I won't object as long as we know it is that way.

Mr. Naus: Q. Now, Mr. Lewis, I will ask you whether or not, having in mind that you kept the two orchards, the Bardin and the Anderson orchard, under your personal supervision for the purpose of advising the respective growers through the years 1942 and 1943, do you know of any difference in any conditions affecting the development of a cot and the growing of an apricot in the year 1943 between the Bardin and the Anderson [609] orchards other than the difference that Permanente dust fell on one and didn't fall on the other?

A. No, I do not.

Mr. Naus: You may cross-examine.

Cross-Examination

Mr. Moore: Q. Mr. Lewis, what date did the blossoming take place on the Bardin orchard—commence?

A. I cannot give you the exact date.

Q. What date did it commence on the Anderson orchard?

A. Well, I couldn't give you the exact date on

(Testimony of William Lewis.)

that. I can give you an idea of how the different orchards came into bloom.

Q. With those two orchards, with regard to their blossoming period, was there any difference in the year 1943? A. The Anderson and the——

Q. And the Bardin?

A. —and the Bardin and the Bob Sterling—not the Bob, the Lester Sterling—came in practically the same time.

Q. Pista came in——

A. Came in about five days later.

Q. Did the blossoming on the Bardin continue for the same length as that on the Anderson?

A. Yes, it did.

Q. Now, the Wilmoth—when did it come in, do you know?

A. I can't give you on the Wilmoth either.

Q. Did it come in the same time as the—how far is it from the Anderson?

A. Well, I would estimate it about a mile and a half.

Q. About a mile and a half?

A. That is what I would [610] estimate it.

Q. Do you know whether or not it came in the same time as the Anderson?

A. No, I couldn't say on that.

Q. Do you know whether there was any deviation in the blossoming period of those two ranches?

A. No, I couldn't give you it now.

Q. Do you know what the yield was on the Wilmoth ranch?

(Testimony of William Lewis.)

A. I have an idea. I never got the yield from Mr. Wilmoth, but I have an idea on it. I made an estimate on that orchard. I was in it.

Q. It didn't have dust on it, did it?

A. I never saw any dust on the Wilmoth orchard.

Q. Now, taking those two ranches there a mile and a half apart—withdraw the question. Don't you know that the yield on the Wilmoth ranch was not more than the Pista ranch and not more than the Anderson ranch, and perhaps less than theirs?

A. Yes, I know that.

Q. It was less than those two?

A. I know that. That was my estimate.

Q. And what difference, then, was there between the Wilmoth ranch and the Anderson ranch on the one part—and the Anderson ranch and the Pista ranch on the other part, except one had dust and the other did not have dust in 1943?

A. I say, I did not see any dust on the Wilmoth.

Q. You said that so far as the Bardin ranch and the Anderson [611] ranch were concerned, conditions were identical except the Bardin ranch did not have dust and the Anderson ranch did have dust.

A. Did have dust.

Q. Isn't it true that conditions on the Wilmoth ranch and on the Anderson ranch were identical except that the Wilmoth ranch did not have dust and the Anderson ranch had dust?

A. Yes, and a soil condition.

Q. Soil condition?

A. Yes.

(Testimony of William Lewis.)

Q. There was a difference, then, on the Wilmoth ranch?

A. There was a difference in this way: In classifying orchards in Monterey County for making estimates, there are certain orchards you classify in a 10- to 12-ton crop; some you classify in an 8- to 10-ton crop; some you classify a 5-ton crop; some, as you go down, to 3 to 4.

Q. Which classification does the Wilmoth Ranch come in?

A. He comes in the 5 to 6-ton crop.

Q. Which does Pista come in?

A. He comes in about an 11-ton crop.

Q. Bardin comes in at about what?

A. 11.

Q. Anderson? A. 11 or 12. [612]

Q. But I am referring now to percentages. The percentage on this 5-ton Wilmoth ranch was less than the percentage on the Pista ranch, wasn't it, in 1943—the percentage of yield?

A. Yes, that would be less.

Mr. Naus: Objected to as ambiguous.

Mr. Moore: Normally, granting the yield was 5 tons——

A. Granting it was 5 tons, it would be less.

Q. What I am getting at, the short crops in all these orchards were about the same, were they not—same percentage of normal yield?

A. On the Anderson, on the Pista ranch, and on the Wilmoth?

(Testimony of William Lewis.)

Q. Yes. A. As far as you could estimate.

Q. With the Wilmoth probably the least of the three, is that correct? A. Yes.

Q. So, regardless of whether there were one ton, or five tons, or ten tons, or 12 tons, there was no difference so far as the yield in 1943 was concerned between the Wilmoth on the one side and the Bardin and the Anderson on the other, except—I don't mean Bardin—the Anderson and the Pista, except that on the Wilmoth ranch they did not have dust, and on the other two they did, is that correct?

A. Could I have that question read?

The Court: Read the question, Mr. Reporter.

(The reporter read the question.)

A. May I go back on an inspection after the third bloom on the Bardin ranch? [613]

Mr. Moore: Q. Can't you answer the question if there is a difference on those three ranches, the Wilmoth, on the one side, and the Pista and the Anderson on the other—will you tell us what that difference was, with the exception of dust on one——

A. I can't give you any difference on the crop. One hasn't got any dust and the other has dust—one is not supposed to have any dust. I haven't seen any dust on it, and the others have dust.

Q. But again I repeat, was there any difference than that? A. No, there wasn't.

Mr. Moore: That is all.

(Testimony of William Lewis.)

Redirect Examination

Mr. Naus. Q. Mr. Lewis, do you believe or don't you believe that the Permanente dust hurt the Anderson and Pista apricots?

Mr. Moore: I am going to object to that as incompetent, irrelevant, and immaterial, not proper rebuttal. I will withdraw it.

The Court: Do you understand that question? Read the question.

(The reporter read the question.)

A. May I go back to an inspection just after the bloom dropped on the different orchards?

The Court: You can answer that in your own way and then make any explanation you want. Read it again so——

A. The only way I can answer it is to draw a comparison upon my last inspection, your Honor, because I am not a chemist, [614] but I know some chemistry. I am not going to state that dust did that or did not.

The Court: Then you can't answer the question. You can answer it in any way you want. I don't want to prompt you how to answer it; but under our procedure, you are expected to answer the question as best you can, and then you can follow it by making any explanation you wish. If you want the reporter to read it again, you may have that done.

A. No, I will answer it just on an opinion that

(Testimony of William Lewis.)

there was damage on the Anderson orchard. Now, if I may follow up by explanation——

The Court: Q. On the Anderson——

Mr. Naus: The question extends to the Pista orchard also, your Honor.

A. On the Anderson and Pista orchards. Now, if I can follow up with an explanation of it?

The Court: Go ahead.

A. After this third cycle that I explained before of the bloom, I went to the Bardin orchard. It was shortly after them clear days. The white blossoms was practically all off, and Mrs. Bardin and myself went through the orchard. It was from my observations that I believed that that set or that third bloom was going to set, and I told her that she was going to get a crop; that she might have to thin part of the orchard.

I left the Bardin orchard and went to the Lester Sterling orchard. Lester Sterling and his foreman saw me there and they came out. I looked at the orchard, examined the orchard [615] with them. They didn't think they were going to have anything. I told them that they would have a crop; that they would have at least 80 tons.

From there I went to the Anderson orchard. I saw the condition looked the same on the Anderson orchard as it was on the Bardin and Sterling orchards. And I told Mr. Anderson, "Unless the dust"—those are my exact words: "Unless the dust damages you, you will have a crop." He says, "Will you tell that to my wife?"

(Testimony of William Lewis.)

I went from there to the Pista orchard, and from my observation it looked like the Pista orchard was going to set a crop. Now, that is how I drew my conclusions.

Mr. Naus: That is all.

Mr. Moore: No questions.

Mr. Naus: We rest.

Mr. Moore: We rest.

(Thereupon the case was submitted on briefs 15, 15 and 15, and continued to November 7, 1944, on the Court calendar.) [616]

[Endorsed]: No. 11019. United States Circuit Court of Appeals for the Ninth Circuit. The Permanente Metals Corporation, a corporation, Appellant, vs. B. Pista and Marie Pista, Appellees. Transcript of Record. Upon Appeal from the District Court of the United States for the Northern District of California Southern Division.

Filed March 29, 1945.

PAUL P. O'BRIEN,

Clerk of the United States Circuit Court of Appeals for the Ninth Circuit.

United States Circuit Court of Appeals
for the Ninth Circuit

No. 11019

THE PERMANENTE METALS CORPORA-
TION, a corporation,

Appellant,

vs.

B. PISTA and MARIE PISTA,

Appellees.

STATEMENT OF POINTS OF APPELLANT
THE PERMANENTE METALS CORPOR-
ATION

Pursuant to the provisions of Paragraph 6 of Rule 19 of this Court, appellant above named files as a concise statement of the points on which it intends to rely on this appeal the following:

1. The evidence does not support that portion of the judgment awarding monetary damages in favor of appellees and against appellant.

2. The Court erred in finding that dust from appellant's operations caused damage to appellees' 1943 apricot crop.

3. The Court erred in finding that dust from appellant's operations caused the yield from appellees' 1943 apricot crop to be 133.475 tons less than it would otherwise have been.

4. The Court erred in approximating the damages suffered by appellees, in that there is no evidence which tends to prove or establish what pro-

portion of appellees' crop shortage was attributable to natural causes and what proportion, if any, was attributable to dust from appellant's operations.

5. The evidence does not support the following findings of fact:

(a) That portion of paragraph "III" of the findings of fact reading as follows:

"From the commencement of the operation, as aforesaid, in August, 1942, until a year thereafter, in August, 1943, said dust was discharged into the atmosphere at an average rate of approximately thirty-two tons daily."

(b) Paragraph "IV" of the findings of fact.

(c) Paragraph "V" of the findings of fact.

(d) That the finding of the Court that damage was proximately caused to the appellees' apricot crop in the year 1943 by reason of dust or other material deposited thereon as a result of the appellant's operation is unsupported by any evidence and is a mere guess, conjecture and surmise on the part of the Court based upon evidence which is itself mere guess, conjecture and surmise on the part of the witnesses.

6. The Court erred in the admission of the following evidence:

(a) Permitting the witness, Louis Pista, to testify as to his estimate of the number of tons of apricots he would have harvested in 1943 if no dust were deposited on his orchard (Reporter's Transcript, pages 20-21).

(b) Permitting the witness, F. E. Twining, to

testify as to his opinion or estimate of tonnage of the crop if dust had not fallen on the trees (Reporter's Transcript, pages 109-113).

(c) Permitting the witness, F. E. Twining, to testify that in his opinion dust settled in sufficient quantities to interfere with pollination (Reporter's Transcript, pages 159-162).

(d) The admission in evidence of that portion of Exhibit No. 4 stating conclusions and opinions of the witness, F. E. Twining.

(e) The admission in evidence of that part of Exhibit No. 5 containing opinions and conclusions of the witness, F. E. Twining.

(f) The evidence admitted purporting to prove that damage was proximately caused the appellees' apricot crop in the year 1943 by reason of the deposit of dust or other materials emanating from the appellant's operations is mere guess, conjecture and surmise and will not support a finding or conclusion that any loss of crop by the appellees was caused by any dust or other material emanating from the appellant's operations.

(g) The Court erred in permitting the witness, F. E. Twining, over the objection of the appellant, to answer a hypothetical question which question omitted any reference to the weather and climatic conditions existing during the pollination period in 1943; and the Court further erred in refusing to strike the witness' answer to said question.

(h) The Court erred in permitting the witness, F. E. Twining, over the objection of the appellant, to testify whether or not the dust which came out

of the stack of the appellant's calcining plant and which settled on the Pista orchard was in sufficient quantity to definitely prevent the fertilization or pollination of the apricot blossoms.

7. The Court erred in excluding from the evidence appellant's Exhibit "W".

8. There is a lack of evidence in that:

(a) The Court erred in approximating the damages suffered by the appellees for there is no evidence justifying an approximation of damages or proving or tending to prove that the loss of crop of the appellees in 1943 was the direct and proximate result of any tortious act on the part of the appellant.

(b) There is no evidence which proves or establishes or tends to prove and establish what portion, if any, of appellees' crop shortage was attributable to weather and what portion was attributable to the dust or other materials deposited on the orchard as a result of appellant's operations, and the conclusions of the Court that 40 per cent of appellees' crop shortage in the year 1943 was due to weather conditions and 50 per cent of appellees' crop shortage was due to appellant's operation is an arbitrary conclusion on the part of the Court and unsupported by any evidence whatsoever, and is the mere surmise, guess and conjecture of said Court.

(c) There is no evidence which proves or tends to prove what portion of the total crop shortage suffered by appellees was caused by the appellant's acts, and what portion of the injury was caused

by inclement weather conditions, and the Court, in the absence of evidence showing what proportion of the crop shortage was caused by each of the two causes, cannot approximate what portion was attributable to each and render a verdict on the basis of such an approximation.

Dated: April 4th, 1945.

THELEN, MERRIN, JOHNSON
& BRIDGES

COURTNEY L. MOORE

Attorneys for Defendant and
Appellant

Copy of the Within Statement of Points of Appellant received this.....day of April, 1945.

GEO. M. NAUS, BARDIN &
HARRINGTON,

Attorneys for Plaintiffs and
Appellees

[Endorsed]: Filed April 4, 1945. Paul P.
O'Brien, Clerk.

[Title of Circuit Court of Appeals and Cause.]

STIPULATION RELATIVE TO THE PRINT-
ING OF EXHIBITS IN THE PRINTED
RECORD ON APPEAL

It is hereby stipulated by and between the parties hereto that the following exhibits be included in and printed as a part of the printed record on appeal, and that the balance of the exhibits introduced

in evidence be not printed and not made a part of the printed record because in the opinion of counsel, they have no bearing on the issues involved in the appeal:

Plaintiffs' Exhibits

1. Plaintiffs' Exhibit No. 4, being the Twining Report dated March 31, 1944, identified at page 89 and introduced in evidence at page 96 of the typewritten transcript.

2. Plaintiffs' Exhibit No. 5, being a supplement to the Twining Report, dated August 8, 1944, identified at page 9 and introduced in evidence at page 96 of the typewritten transcript.

3. Plaintiffs' Exhibit No. 8, being photographic copy of "The Effect of Dust from Cement Mills on the Setting of Fruit", identified at page 230 and introduced in evidence at page 285 of the typewritten transcript.

Defendant's Exhibits

1. Defendant's Exhibit "K", which is statistical data as to the amount of dust that is being emitted from the stacks at Natividad and referred to at page 231 of the typewritten transcript.

2. The following portions of Defendant's Exhibit "U", being an article by McDaniels and Hildebrand in regard to the effect of Bordeaux mixture on pollination, to-wit: the first paragraph of page 14, marked on the exhibit with the letter "B", and the first paragraph on page 21, continuing over and including the first line of page 22, marked on the exhibit with the letter "B-1".

3. The following portions of Defendant's Exhibit "V", being an article entitled, "Monilia Blossom Blight (Brown Rot) of Apricots", introduced in evidence at page 499 of the typewritten transcript, to-wit: that portion found at pages 40 and 41 and marked on the exhibit with the letter "A" and "A-1".

4. Defendant's Exhibit "N-1", introduced in evidence at page 519 of the typewritten transcript and which consists of page 42 of Defendant's Exhibit "N".

Dated: April 23rd, 1945.

THELEN, MARRIN, JOHNSON
and BRIDGES

COURTNEY L. MOORE

Attorneys for Appellant
BARDIN & HARRINGTON
GEO. M. NAUS

Attorneys for Appellees

[Endorsed]: Filed May 3, 1945. Paul P. O'Brien,
Clerk.

[Title of Circuit Court of Appeals and Cause.]

DESIGNATION OF RECORD ON APPEAL

Appellant hereby designates, in accordance with Rule 75, those portions of the record, proceedings and evidence to be contained in the record on appeal, to-wit: The entire record, exclusive of the depositions and including those portions of various

exhibits, in accordance with the stipulation of the parties heretofore served and filed.

Dated: May 22nd, 1945.

THELEN, MARRIN, JOHNSON
and BRIDGES
COURTNEY L. MOORE
Attorneys for Appellant

Copy of the Within Designation of Record on Appeal received this 22nd day of May, 1945.

GEORGE M. NAUS
Attorney for Appellees

[Endorsed]: Filed May 23, 1945. Paul P. O'Brien, Clerk.

No. 11,019

IN THE

United States Circuit Court of Appeals

For the Ninth Circuit

THE PERMANENTE METALS CORPORATION

(a corporation),

Appellant,

vs.

B. PISTA and MARIE PISTA,

Appellees.

BRIEF FOR APPELLANT.

THELEN, MARRIN, JOHNSON & BRIDGES,

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FILED

NOV 6 - 1949

PAUL P. O'BRIEN,
CLERK



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No. 11,019

IN THE

United States Circuit Court of Appeals

For the Ninth Circuit

THE PERMANENTE METALS CORPORATION

(a corporation),

Appellant,

vs.

B. PISTA and MARIE PISTA,

Appellees.

BRIEF FOR APPELLANT.

JURISDICTIONAL STATEMENT.

This is an appeal from a judgment at law of the United States District Court for the Northern District of California in favor of the plaintiffs, B. Pista and Marie Pista, against the defendant, The Permanente Metals Corporation, in the sum of \$9903.84, plus costs of suit in the sum of \$428.50.

The District Court for the Northern District of California has jurisdiction of the action under Section 24(1)(b) of the Judicial Code, as amended (28 U.S.C.A. 41(1)(b)), and Section 51 of the Judicial Code, as amended (28 U.S.C.A. 113).

The plaintiffs are citizens of California and the defendant is a Delaware corporation.

The amount in controversy, exclusive of interest and costs, exceeds the sum of \$3000.00.

The pleadings necessary to show the jurisdiction of the District Court are the complaint (16 to 20), the answer (20 to 22), petition for removal of cause (7 to 10), bond for removal (11 to 14), and order for removal (4).

The United States Circuit Court of Appeals for the Ninth Circuit has jurisdiction under Section 128(a) (d) of the Judicial Code, as amended. (28 U.S.C.A. 225(a)(d).)

The judgment of the District Court was entered on December 12, 1944 (34), on December 21, 1944, a notice of motion for new trial was made (34 to 37), motion for new trial and order amending findings made on January 2, 1945 (37 to 39), notice of appeal filed January 10, 1945 (39 to 40), transcript of the record on appeal was certified and filed by the Clerk of the District Court on March 22, 1945 (45) and filed in this court on March 29, 1945 (721).

STATEMENT OF THE CASE.

Appellant operates a calcining plant at Natividad, near Salinas, California, where dolomite ore, which is quarried nearby, is calcined. Appellees' apricot orchard is approximately a mile distant from the plant.

In 1943, during the blossoming or pollination period of the apricots, dust was discharged from the stacks of appellant's plant, some of which settled on appellees' orchard. Appellees claim this dust interfered with the pollination of the apricots, thereby causing a short crop. Appellant disputes this, contending that the appellees' short crop was caused by inclement and unfavorable weather.

The 1943 apricot crop, not only in Monterey County, but throughout the State of California, was the smallest in the history of the industry. That this widespread shortage was due to weather conditions and not to dust conditions is undisputed. The apricot yield in Monterey County was approximately 20% of normal, varying from a total failure to one orchard which had a 60% yield.

The court concluded that if it had not been for the dust, the appellees' yield would have equaled the highest yield in the county, namely, a yield of 60% of normal crop. Appellees' actual yield was approximately 10%. The court then calculated that the appellees' average yield for the five years preceding 1943 had been 266.16 tons per year, and that if there had been no dust, appellees would have had a crop equal to 60% of their average crop, that is, 60% of 266.16 tons or 159.69 tons. The court deducted appellees' actual yield of 26,221 tons from the computed yield of 159.69 tons, and said that the dust was responsible for the difference, or a loss of 133.75 tons. Appellees would have made a profit of \$74.20 a ton, which on 133.75

tons would amount to \$9903.84, for which amount the court gave judgment.

The court's judgment is therefore based upon the factual premise that if it had not been for the dust, the appellees would have had a crop equal to the highest yield in the county. If the evidence does not justify this premise the judgment should be reversed.

STATEMENT OF QUESTIONS INVOLVED.

Appellees produced four witnesses in an effort to prove that the dust from appellant's plant so seriously affected the pollination of the fruit in 1943 as to cause a shortage. Five major questions are presented on this appeal.

Question 1: Appellant objected to and claimed that the court erred in allowing a hypothetical question to be asked the expert witness, Mr. Twining, relative to the effect of dolomite dust on the production of apricots on the Pista orchard (Tr. pp. 169-70) and in permitting him to estimate the size of the crop if it had not been for the dust (Tr. pp. 172-3) on the ground that the hypothetical questions did not include any reference to the weather conditions, which admittedly were a material element in the problem.

Question 2: Appellant claims the court erred in permitting Mr. Pista, over the objection of appellant that he was not qualified as an expert on the effect of dust on pollination, to testify on the effect of the dust

on the apricot crop, and to testify as to the number of tons of apricots he would have harvested if it had not been for the dust. (Tr. pp. 64-65.)

Question 3: Appellant contends that no competent witness was produced by the appellees whose testimony gives the slightest evidentiary support to the court's conclusion that the dust was the proximate cause of any loss of crop for the reason that Mr. Lewis, a qualified expert, refused to express an opinion, and the testimony of the other three witnesses, namely, Mr. Twining, Mr. Pista and Mr. Anderson, is valueless, for the reason that all of them lacked the necessary qualifications, either by reason of lack of expert or factual knowledge, to render an opinion, with the result that their opinions were mere guess, surmise and conjecture and worthless as evidence.

Question 4: The court concluded that the appellees' crop shortage was the joint result of two causes, the dust and weather conditions. Appellant contends that when an injury results from two possible causes, and when the precise cause is, under the evidence, left to conjecture, and where the injury may be reasonably attributed to a condition for which no liability attaches as to one where a liability does attach, then judgment for the defendant should be given.

Question 5: The trial court attributed 50% of the short crop to dust, and 40% to weather. Appellant contends that such a division was the arbitrary act of the trial judge, and unsupported by any evidence, and was the result of guess, surmise and conjecture on the

part of the trial judge rather than a judicial determination based on substantial evidence.

Questions 1 and 2 were raised by appropriate objections to the testimony. Questions 1, 2, 3, 4 and 5 were raised at the conclusion of the evidence in argument to the trial court, on motion for a new trial (Tr. pp. 34-5), on statement of points on appeal before the District Court (Tr. pp. 41-43) and by statement of points on appeal before the Circuit Court of Appeals. (Tr. pp. 722-726.)

ARGUMENT.

DISCUSSION OF QUESTIONS 1, 2 AND 3.

Questions 1, 2 and 3 involve the probative value of the evidence together with objections to its admission. Appellant will therefore discuss these three questions as a unit.

CLOUDY, RAINY WEATHER DURING THE BLOSSOMING PERIOD CAUSED A SHORT CROP THROUGHOUT MONTEREY COUNTY.

It was recognized by the court in allocating 40% of the crop shortage to the weather, and it is indisputable, that cloudy, rainy weather was a material element entering into the causation of any crop shortage. No witness who was actually on the scene and personally observed the conditions denied or questioned this fact.

J. J. Wilmoth, whose orchard was located approximately one-half mile from Pista's but on whose orchard no dust fell, who had a 10% crop, stated:

“A. I think it was on account of the weather more than anything else that ruined my crop. My crop was in full bloom. * * * It commenced to rain. It rained about ten days. It turned out foggy and damp and rotted the blossoms.” (Tr. p. 383.)

He further stated that in his opinion the short crop was due to the weather (Tr. pp. 383-4) and also that the Pista ranch which is nearby has about the same kind of weather. (Tr. p. 398.)

William D. Eiper, Secretary of the Aromas Local of the Prune and Apricot Growers Association and whose orchard had no dust on it, had approximately a 7% crop. He stated, when asked the cause of the short crop: “A. Well, I would say it was the rain. We had a long rainy period when they were in blossom” . . . and that in his opinion his short crop was caused purely by weather and climatic conditions existing during blossoming time. (Tr. pp. 401-2.)

Walter E. Packard, an expert called by appellant, commenced his study of the Pista crop shortage, the general statewide shortage, and Monterey County and the Natividad District shortage, in July, 1943, approximately four months after blossoming time. He visited all of the orchards in Monterey County, discussed with the owners of the orchards their 1943 crop, the amount of shortage and the causes thereof (Tr. p. 562); he discussed the same subject with the state and county agricultural officials in Monterey County (Tr. p. 563); secured reports of the yield throughout the state by

counties (Tr. p. 565), including Monterey County. He discussed the problem with all of the well known horticultural experts in California, including the professors at the University of California. (Tr. p. 567.) He studied the agricultural reports of Monterey County from 1938 through and including 1943. (Tr. p. 570.) He secured and studied the official weather and temperature reports from Monterey County. (Tr. pp. 577-583.) He examined personally all of the orchards in Monterey County, and out of a lifetime of study and experience devoted to horticultural pursuits, supplemented by the intensive investigation and study which has just been outlined, Mr. Packard was of the opinion that weather conditions caused the short crops in Monterey County. (Tr. pp. 576 and 583.)

Testimony of William Lewis.

William Lewis, who was called by the appellees, and not by the appellant, was the only witness who was actually on the scene during the blossoming period in 1943 and who, by reason of his training, experience, learning and power of observation, was competent to tell the court what actually happened. He was the District Agricultural Commissioner of Monterey County, and his testimony evidences the observations and conclusions of a painstaking scientific mind and must furnish the basis by which all other expert testimony must be judged and measured. We will therefore refer to his testimony at considerable length.

Mr. Lewis not only inspected the Pista orchard on several occasions but visited all the other orchards in

the county and was particularly familiar with the Bardin orchard, which he supervised. He described at considerable length how the weather conditions affected the apricot crops and also the behavior of the blossoms themselves. He stated that there were three different blooms in all the orchards in the district, which blooms extended over a period of about eighteen days; that the bloom itself was sufficient to give a crop but that he noticed that on the first bloom the cot, instead of growing from the bloom, would drop off and the same would happen with the second bloom, while with the third bloom that although the biggest portion dropped off, more set; that the blooms were not setting or developing into fertilized or pollinized cots. (Tr. pp. 96-7.) He made particular reference to the Bardin orchard, which had no dust on it, and compared the behavior of the blooms with the Pista orchard. He stated that the Bardin orchard had three cycles of budding and that the buds dropped off on the first cycle and most of the second, and that the behavior of the fruit was exactly the same on the Bardin and Pista ranches, also that the same phenomena of nature occurred on the Lester Sterling, Bob Sterling and the Anderson ranches. He stated that in his opinion the cause of these apricots dropping off was failure of the pollen to reach the pit. (Tr. pp. 110-111.) The same condition existed throughout the county and the reason why the pollen did not reach the pit was cloudy, rainy, chilly weather which stopped the pollinization, and this condition existed in all of the orchards in Monterey County. (Tr. pp. 111-112.) He described at

considerable length the conditions throughout the county. (Tr. pp. 112-114.) He stated definitely (Tr. p. 116) that throughout the whole district the cause of the fruit dropping off on the first and second cycles was caused by cloudy, cold, foggy weather (Tr. p. 116) but that the weather warmed up between the second and third blossoming. (Tr. p. 116.)

Lewis' testimony therefore conclusively establishes that every orchard in Monterey County, including Pista's had three cycles of blossoming, and all of the fruit which finally ripened set on the third cycle, and that the dropping of the fruit resulted from the same cause, namely, the weather. Pista's orchard did not differ from the balance of the orchards but followed the same pattern. The identical behavior of all of the orchards in Monterey County in having three cycles of blossoming with the small cots dropping off on the first two cycles and with the crop setting on the third cycle, supplemented by Lewis' testimony relative to the uniform bad weather and its effect on pollinization, supplemented by his own opinion, unerringly and indisputably point to the fact that the same cause was responsible for the identity of behavior of all of these orchards, and that this cause was unfavorable weather. If the dust had affected the production of the Pista orchard and had not affected the other orchards, it is certain that this skilled observer would have noted some different behavior on the part of the blossoms on the Pista orchard from that which existed in the balance and would have pointed it out in his testimony, which he did not do, but not only did he not do so but

he refused to express the opinion that Pista's crop shortage was caused by the dust. (Tr. p. 97.) He was asked what, in his opinion, was preventing the apricot blossoms from setting on the Pista ranch. His answer was "That area had me puzzled." Again he was questioned as to whether the Permanente dust did or did not interfere with the setting of the fruit on the Pista orchard and he replied that something interfered with it. (Tr. p. 99.) Finally Lewis was recalled to the witness stand at the close of the case and he was asked the direct question as to whether or not he believed that the Permanente dust hurt the Anderson and Pista apricots, to which he replied "I am not going to state that the dust did that or did not." (Tr. p. 719.) This refusal by appellees' own witness to testify that in his opinion Pista's short crop was caused or was attributable to dust is tantamount to a declaration on his part that—in his opinion—the dust had nothing whatsoever to do with the short crop in 1943, with the result that Lewis' testimony cannot be relied on to support the court's judgment. Since it must be conceded that the weather was at least one of the controlling causes of the short crop, any expert who attempted to give his opinion and did not take recognition of the effect of the weather would be engaging in mere surmise, guess and conjecture, and his opinion would be valueless as evidence. The other three witnesses produced by the appellees, namely, Twining, Pista and Anderson, fall in this category, because none of them gave the slightest recognition of the weather conditions.

Testimony of F. E. Twining.

After Mr. Lewis, appellees called F. E. Twining, a qualified expert. Not only did Mr. Twining have no knowledge of the weather or actual conditions existing at the time of the crop failure, but in addition his entire conclusions were based upon laboratory experiments and calculations made more than a year after the crop failure and which were mere guesses, surmises and conjectures as to what actually occurred during the pollination period in 1943.

Mr. Twining first visited the orchard in March, 1944. This first visit was approximately one year after the 1943 blossoming period. Following this visit he rendered, on March 31, 1944, a report. (Pltfs'. Exhibit 4.) Pages 3 and 4 of Plaintiffs' Exhibit 4 contain an analysis of the dust on vegetation gathered on the March, 1944, visit. (Tr. pp. 146-149.)

He subsequently made two additional visits to the orchard, one on June 22, 1944 (Tr. p. 137), and another on August 1, 1944. (Tr. p. 137.) After these last two visits he rendered a supplemental report dated August 8th. (Pltfs'. Exhibit 5, Tr. pp. 153-156.) Page 3 of Exhibit 5 contains an analysis of the dolomite ore taken at the quarry, page 4 contains a chemical analysis of the dust on the apricots and leaves gathered on the June 22nd visit, and page 5 contains an analysis of the dust on the leaves and apricots gathered on the August 1st visit.

He then testified as to calcine material:

“it affects the secretion of the stigma and prevents the pollinization or fertilization. That occurs during blossoming time and, of course, depends on *the quantity* as to how much damage it might do.” (Italics ours.)

Since according to Twining a definite and accurate knowledge of the *quantity* of such deposit is a prerequisite to and must form the basis of any sound opinion, therefore any witness must necessarily be possessed of accurate knowledge of the following factual essentials in order to render an opinion as to the effect of the calcine material on the crop, namely, (a) the date and time period of blossoming, and (b) the rate of deposit during this period. These two factual essentials cannot be supplied by guess, surmise or conjecture, and if they are, then the witness' expression of opinion is worthless because the factual premise for the opinion is nonexistent.

Twining never pretended to have any knowledge as to when the blossoming period occurred on the Pista orchard, how long it lasted, or the quantity of dust deposited. His approach to the problem was purely hypothetical and not factual and as far as he was concerned the blossoming could have occurred at any time and it would have made no difference in his calculations and the result would have been the same. By a laboratory experiment he sought to determine the total amount of dust deposited during the entire

year of 1943,* and then guessed, surmised and conjectured that the rate of deposit never varied from day to day but was constant throughout the year. That is, he guessed that the deposit of dust on the Pista orchard was constant throughout the year without any knowledge whatsoever of the actual conditions or whether the dust deposit may have been far greater at one time than at another.

Twining, in May of 1944, took three samples of evergreen foliage, two of which were oak leaves and one of which was citrus (Tr. pp. 163-4), which leaves would have on them the dust deposit from the commencement of the operation of the plant. He also took a new growth of weeds, which would have on them only the dust which had been deposited since the weeds had sprouted in the spring of 1944. He then deducted the deposit on the weeds, that is, the 1944 deposit of dust, from the deposit on the evergreens, which he had erroneously concluded represented the 1943-44 deposit and then assumed that the difference in deposit represented the 1943 deposit. (Tr. pp. 164-6.) This calculation was the sole extent of Twining's knowledge as to the quantity of dust deposited during the 1943 blossoming period. That he was devoid of actual knowledge of the amount deposited during this period and was indulging in the wildest type of guessing is easy to demonstrate.

*As we will subsequently show, this experiment and the calculations based thereon abound in error and in unsound assumptions of fact.

Mr. Lewis, by skilled personal observation, fixes the commencement of the blossoming period in 1943 on the Bardin orchard as commencing in the first week in March, with the Pista orchard coming into blossom about five days later (Tr. p. 61) and lasting for approximately 18 days. (Tr. p. 48.) Mr. Packard, a witness for appellant, who made an exhaustive factual and scientific investigation as to the causes of the 1943 crop failure, agreed with Lewis. Lewis did not attempt to fix the particular day during the first week in March that the blossoming commenced on the Bardin orchard, merely testifying that it was during the first week of March. Therefore, the blossoming commenced on the Pista orchard somewhere in the neighborhood of the 10th of March, and continued for 18 days, or until approximately March 28th.* If there was any interference with the pollination by reason of dust, it had to be in the period somewhere between the 6th of March and the 1st of April, or a period of 25 days, and since, according to Twining, the amount of damage the dust might do “depends on the *quantity*” (Tr. p. 160), a knowledge of the amount of dust deposited during this 25 day period is a prerequisite to the formation of any opinion whatsoever, either sound or unsound, and a lack of such knowledge converts any estimate as to the amount of damage resulting from

*These dates cannot be accurate, but the variation of a few days is unimportant because it is certain that the blossoming covered a period of approximately 18 days in the middle of the month of March.

interference with pollination into valueless conjecture. Twining did not pretend to have any such knowledge.

Furthermore, his assumption that the difference in deposits on the evergreens and the young weeds represented the dust which had accumulated through 1943, or that there was no variation in the rate of accumulation is not supported by any information or knowledge possessed by Twining, but is contrary to the facts.

Appellant's plan commenced operations in 1942 and the dust deposit commenced at the same time, because Lewis testified that he first observed the dust deposit on the Pista orchard in September of 1942. (Tr. pp. 42-43.) Therefore, the deposit on the evergreens did not commence in 1943 as assumed by Twining, but in 1942, which would make the rate of deposit for any given period 20 to 25 per cent less than Twining's calculations.

Knowledge of the rate of deposit during this 25 day pollination period is essential to even a guess. Twining did not indicate that he even knew if the plant was operating during this 25 day period. For all he knew, it might have been shut down during this period or during a portion of it, or only one of the two kilns might have been operating. It might have been operating 24 hours a day, or only a portion of the day. Certainly the direction and velocity of the wind during this period would affect the quantity of dust deposited. It might have been blowing away from the Pista orchard instead of toward it. Wet or clear weather might materially change the rate of deposit

from time to time. Twining did not evince any knowledge of any of these subjects, nor did he even pretend to have the slightest knowledge of the *quantity* of dust deposited during the 25 day period. All which he did was—a year after the crop failure he measured the dust deposit on two sets of leaves, and then guessed that the difference in the two deposits had been deposited during the year 1943, when in fact the deposit covered at least fifteen months. He then guessed that the rate of deposit was constant throughout 1943, without having any knowledge or actual observation to support such guess.

Twining was then asked the following hypothetical question:

“Q. Assuming, Mr. Twining, the deposit of the dolomite material in 1943 to the extent that your examination and analyses of the 1943 samples disclosed, and assuming that those samples came from the Pista orchard of 44 acres, or something like 3000 trees or over, and assuming that in the year 1943 that orchard and those trees produced no more than 27 tons of apricots, what in your opinion or estimate would the tonnage have been if that dolomitic deposit had not fallen upon the trees?” (Tr. p. 169.)

This question was objected to on the ground that it was incompetent, irrelevant and immaterial; that the witness had not qualified as an expert on horticulture; and that the hypothetical question did not embrace all the facts as disclosed by Mr. Lewis, as to what actually happened in that year; *and that it contained no*

reference "*to the cold and foggy weather and the three cycles of blossoming*". The objection was overruled.

It will be noted that Mr. Lewis had already testified that the weather played a part in the loss of yield, and yet no reference is made to this material element. Furthermore, the question is contrary to the evidence because there were no 1943 samples analyzed, but the only samples which were analyzed were those on the evergreens which contained the deposits from September, 1942, to March, 1944.

The witness answered:

"There was definite damage due to the deposits. *Now, in order to arrive at how much damage occurred, I either would have had to have examined that orchard through the season, or, taking into consideration general conditions, 1943 was what we call a low-crop year, and average it up.* For instance, the average in our particular territory would run from 35 to 50 per cent of a crop. Under those circumstances, why, of course 27 tons was practically nothing. * * *

Mr. Moore. I want to make a motion to strike the answer out, your Honor, on the same grounds I voiced in the original objection. (111)

The Court. I will allow the record to stand. Let your objection be noted, and the answer stands subject to your motion to strike."

Twining's answer discloses, and he definitely states, that he had no knowledge of what occurred in 1943, but merely averaged the crop on the basis that it was a low-crop year, which in his particular territory ran

from 35 to 50 per cent of a crop. Mr. Twining's residence was in Fresno County and not in Monterey County. The short crop in Monterey County was approximately 20 per cent of the average crop and not 35 per cent or 50 per cent.

Mr. Twining was then asked:

"Q. Can you from the question I put to you indicate to me an opinion or estimate, say, in the form of how many times 27 tons might have been expected if there had been no dust?

Mr. Moore. I am going to voice the same objection and add to it this man is not qualified, is not a horticulturist, and how in the world can anybody even make a guess, your Honor?

The Court. *I do not know*, but I will have a record and you will have a record to comfort yourself with. I will allow it to go in under the same ruling." (Tr. p. 172.) (Italics added.)

Twining then guessed that the crop, if it had not been for the dust, would have been 7, 8, or 9 times 27 tons. (Tr. p. 173.) He was then asked as to his reasons:

"Q. State the reason or reasons for your estimate of 7, 8 or 9 times 27 tons.

A. *Well, I am basing that simply on general* (112) *conditions that I knew occurred; that is all."*

Just what Mr. Twining meant by "knowledge of general conditions" was not explained. He certainly had not displayed any knowledge as to the amount of dolomite dust deposited during the blossoming period in 1943, and he was not interrogated, and he did not

testify as to any knowledge as to weather conditions, but was permitted to give his expert opinion when by proper objection attention was drawn to the fact that the question ignored all reference to the weather.

Twining's cross-examination shows that Twining was indulging in the wildest type of guessing and conjecture, because he knew absolutely nothing about what had occurred in the blossoming time in 1943.

"Q. But it is your opinion that it did affect it in '43, is that true?

A. Well, in taking the total amount of material and figuring that that was deposited in '43, I know that that material will cause some damage. Now, I didn't check up on the bloom or the dropping of fruit, so I can just give it as an opinion.

Q. In other words, you are calculating from the result to the cause rather than from the cause to the result, is that right?

A. I am calculating from the cause, yes.

Q. Now, might it not be possible that in 1943 that a short crop was due to other elements or factors rather than the dust from this——

A. Well, taking into the case this particular case—taking into consideration and knowing there was a short crop, I still think it was shorter than it should have been.

Q. But you never saw the trees; you don't know anything about it?

A. Not at that time." (Tr. p. 216.)

He did know that Pista had a short crop in 1943, but he admits that there might be many things which entered into causing the short crop other than dust.

“Mr. Moore. Q. Mr. Twining, let me ask you, you say that in your opinion if it had not been for this deposit of dust in 1943 that the yield of the Pista orchard would be seven, eight or nine times greater than it was; am I making a correct statement of your testimony?

A. *No, I do not want it as a direct statement.* If it had not been for this dust, I give it as an opinion that this dust affected it, and taking some other things into consideration, he should have had a crop of, I would say, eight times what he did.

Mr. Moore. Will you read the last part of that answer?

(Record read.)

The Witness. I would not specify exactly what he should have had, but I am just stating what he should have had under varying conditions.

Mr. Moore. Q. What other things did you take into consideration?

A. Well, the general conditions during the year, and assuming the climatic conditions, the cultivation and so on, were properly handled.

Q. I don't understand you—the climatic conditions were properly handled.

A. Well, not being there, you might have had a snowstorm in the first of April, or a heavy frost, or something of that sort. I practically know that he did not, but I say those things might happen.” (Tr. pp. 217-218.)

It will be noted that although Twining referred to climatic conditions, nevertheless, he testified that he never examined the weather reports of Monterey County or of the Natividad district and did not know

what the weather conditions were in the Natividad district in 1943. (Tr. p. 219.) He also admitted that he never had occasion to study the cause of the short crop throughout California in 1943.

“Q. You made no investigation or study of any kind, character or description relative to the effect of a particular weather, climatic conditions that occurred in 1943, so far as it affected the apricot crop, is that correct?

A. That is pretty general. I might say ‘No’ to that question, because I made no specific examinations based on that.” (Tr. p. 221.)

It will thus be observed that Twining admitted that there was a short apricot crop in California in 1943 and that this shortage was due to inclement weather, but that he made absolutely no investigation as to the effect of the weather on the apricot crop. Admitting that there was a short crop caused by weather, the result is—that Twining’s statement that Pista would have had seven, eight or nine times the crop which he had, if it had not been for dust, is pure surmise and conjecture, and does not rise to the dignity of evidence.

Testimony of Pista and Anderson.

The fundamental basis which determines the admissibility of all opinion evidence is that the expert is possessed of special skill or science on a subject on which the court or jury is supposed to have little or no knowledge, and that therefore the expert opinion adds to the knowledge of the tribunal as to the facts, and assists that tribunal in reaching a sound conclusion.

The fundamental question involved in the present litigation is: Did the dust which was deposited on the Pista orchard interfere with the pollination of the crop to such an extent that it caused or contributed to cause the short crop in 1943? This issue is a highly technical and scientific one. The evidence of Mr. Twining, Mr. Pista and Dr. Duschak is all to the same effect, namely, that the discharge is a combination of magnesium oxides and calcium oxide at the time it leaves the kilns and is highly caustic, and that as it passes through the air it picks up moisture and becomes a hydroxide, and subsequently picks up other elements and reconverts itself into calcium carbonate, which is not caustic and probably not injurious. These three qualified experts testified at great length as to the effect of oxides, hydroxides and carbonates on the pollination of fruit. In order that the testimony of Pista and Anderson would have any value whatsoever, it was necessary to establish first that these particular witnesses were possessed of some special skill or science as the result of which he possessed superior knowledge relative to the effect of this dust on pollination. In the absence of such knowledge his testimony would be of no value, and before he was permitted to testify he should have been qualified as an expert by showing that he was possessed of some knowledge beyond that ordinarily possessed by the average juror or judge. Otherwise his testimony would fall within the evidentiary rule prohibiting a witness from giving his opinion or conclusions, it being the primary function of the court or jury to draw the necessary conclusions from the proper recitation of the facts.

Pista and Anderson were orchardists and there is no pretense that either of them had the slightest knowledge on this highly scientific and technical subject, nor is it claimed that either of them through practical experience by reason of contact with situations where similar dust was deposited, had gained any knowledge or that they had any knowledge or experience of the effect of oxides, hydroxides and carbonates on pollination. Peculiarly, neither of them had any knowledge of the weather which occurred during the blossoming period of 1943. They both displayed ignorance of this vital subject. Pista could not even write. He was so illiterate and ignorant he could hardly understand the English language. The court allowed leading questions to be propounded to Pista by his own counsel because of his inability to understand a simple question. (Tr. p. 61.) "You will have to lead him somewhat, going step by step." His own counsel admitted (Tr. p. 63) he would have difficulty pursuing "with this witness" the difference between budding and blossoming, "I will pursue it with other witnesses." The court warned opposing counsel not to use the word "solitary". "He has some difficulty to understand it." Mr. Naus said "I doubt of he knows what 'solitary' means". (Tr. p. 68.) His ignorance was again displayed when asked on cross-examination if the rain had anything to do with his short crop and he replied "I don't know, it's in the book (the account book). I don't write, you know". It thus appears that when he was asked a simple question as to the effect of the rain on his crop he not only couldn't give an answer to the question

but couldn't even understand it. He knew that in 1943 there was some rain and admitted it did rain some while the fruit was in blossom but the rain was "not so heavy," but apparently he did not know when the blossoming started but guessed it was around the first of February and stated "Maybe you know. I don't know. (Tr. p. 73.) It must be remembered that Pista did not live on the ranch but lived at Watsonville. (Tr. p. 55.) It thus appears that he was in error by a month as to when the blossoming commenced, Lewis' testimony showing it to be somewhere in the middle of March and the other witnesses corroborating Lewis' testimony. This illiterate man, who could not write, could not understand simple English words, who was in error in regard to when the blossoming period commenced, and had little or no knowledge of the rainfall, was permitted by the trial court, over proper objection, to testify on a highly scientific and technical subject, namely, the effect of dolomite dust on the pollination of fruit, as follows:

"Q. If no dust had come over from that Permanente plant in the year 1943, Mr. Pista, what, from your experience and from what you saw about the trees that year, would have been the number of tons you could have harvested from the trees." (Tr. p. 64.)

To which the following objection was made:

"Mr. Moore. I am going to object to that, your Honor. That question is highly objectionable, argumentative, and assuming facts that are not in evidence. How he could tell as an expert whether the cement dust caused a short crop or not, I do

not know. He is not qualified as an expert in any way, shape, or form.”

In the course of the argument the attorneys for the appellant further stated:

“Asking this man whether he had a short crop because of that cement dust I take it your Honor, is going far beyond his capacity. He cannot testify.”

Nevertheless, the court ruled “I will allow the question. It goes to the weight of the answer”.

The question was reframed as follows:

“Mr. Naus. Mr. Pista, in 1943 you testified that you were down at the orchard two or three times a week, that you saw the orchard, you saw the condition; now, if no dust had come on your orchard, what do you estimate is the number of tons of apricots you should have harvested in 1943.” (Tr. p. 66.)

“Mr. Moore. So the record will show it, your Honor has already ruled, the question has been restated, and I will object to it as incompetent, irrelevant, and immaterial, assuming facts not in evidence. This man is not qualified to testify along that line.

The Court. The objection is overruled.

Mr. Moore. Note an exception.

Mr. Naus. Q. Can you answer?

A. If there was no dust from cement my figure would be from 200 to 250 tons.

Q. From 200 to 250 tons?

A. Yes.” (Tr. p. 66.)

Anderson's orchard was located much closer to the appellant's plant than was Pista's. His ignorance was abysmal and his lack of knowledge or memory as to what happened in 1943 is startling. He could not remember whether they had rain or whether there was fog. All he knew was that the cots just formed and dropped off. (Tr. p. 545.) Amazingly, he testified that he knew nothing about what happened to the other orchards in Monterey County, including his near neighbors—Pista, the two Sterlings, the Hill. Still more amazing, he didn't even know that there was a short crop in Monterey County. He believed that there was some report that they had a short crop in the state of California but he wasn't sure. He never made any inquiries of his neighbors or state agricultural officials as to the cause of the short crop. (Tr. p. 546.) He never discussed with anyone whether there was a short or long crop in Monterey County, or whether the same phenomena of nature occurred in other orchards. (Tr. pp. 546-7.) He did believe that possibly the weather may have had something to do with the short crop but he had no recollection as to the weather. (Tr. p. 548.) He did not know what chemicals dolomite dust was composed of. (Tr. p. 549.) He did not even know the near neighbors, the Bardins, had lost the first setting. (Tr. p. 553.) He never discussed the 1943 short crops with anyone. (Tr. pp. 544-5.) He testified that in his opinion the dust caused his short crop. (Tr. p. 535.) He claimed he never talked with the attorney who placed him on the witness stand what he would testify to (Tr. p. 555) but he admitted

that he had consulted them relative to suing Permanente. (Tr. p. 547.) An unbelievable situation. He did not testify or render any opinion as to what was the cause of Pista's short crop, and could not do so because he did not even know that he had a short crop.

This type of testimony does not reach the dignity of evidence or even naked opinion based on speculation and conjecture, but is merely an opinion based on an intent to sue the same defendant.

THE LAW RELATIVE TO TWINING'S TESTIMONY.

Ordinarily a witness is not permitted to express his opinion or conclusion with respect to matters in issue, but one of the exceptions to this rule is embodied in Section 1870, Subdivision 9 of the Code of Civil Procedure of the State of California, which permits opinion evidence as to "a question of science, art, or trade, when he is skilled therein". Therefore, before any testimony as to the effect of dust on the pollination of fruit is admissible or before it has any value, it must be shown that the witness was skilled on this subject. This type of testimony may be elicited through the medium of hypothetical questions or by the opinions of skilled persons based on personal observations. The rule is incontrovertibly established that an expert's opinion is simply a guess and therefore worthless as evidence which ignores important or controlling basic factual elements entering into the problem, and that where it appears that such basic

factual elements are not included in the hypothetical question the objection to such question should be sustained.

The rule is of general application. 11 R. C. L., page 50, reads:

“The trial court should exclude it if it (the question) selects or presents the facts unfairly or omits essential facts which are admitted or rendered practically certain by the evidence.”

That such an opinion is the mere guess and conjecture of the witness is established by 20 Am. Jur., page 667:

“It is necessary, however, that the facts upon which the expert bases his opinion or conclusion permit reasonably accurate conclusions as distinguished from mere guess or conjecture.”

Corpus Juris states, relative to hypothetical questions:

“Undisputed facts, when material, must always be assumed, even though some of such facts are detrimental to proponents’ case.”

22 C. J. 711;

32 C. J. S. 353-4.

California courts recognize this doctrine. In *Lawrence v. Butler*, 79 Cal. App. 436, where an objection was sustained, the facts appeared in the court’s opinion.

“It will be noted that the very element which was shown by the testimony of all witnesses to the accident, including that of a traffic officer, to have

been the sole contributing cause of the backward movement of the truck, namely, the greasy condition of the pavement, was wholly omitted from both questions. If, therefore, appellant was seeking to prove that the accident could have been averted by the proper application of effective brakes, the substance of the questions asked was foreign to the situation described by the undisputed evidence in the case."

In the *Estate of Clark*, 100 Cal. App. 357, the case was reversed because of error in allowing a hypothetical question. The court stated:

"This objection is unanswerable. These witnesses based their answer upon a statement of facts which, besides being directly contrary to the facts proved, omitted many essential elements in the history of the testator's life which were then before the jury and conceded to be true. For the purpose of this opinion it is necessary to refer to but a few of these discrepancies. * * * It is unnecessary to further detail discrepancies in this hypothetical question. *Manifestly the answers of the three experts must have had some effect on the minds of the jury and because of the error in this respect, if for no other reason, the judgment must be reversed.* (Estate of Gould, 188 Cal. 353 (205 Pac. 457); *Snow v. Harris*, 41 Cal. App. 34, 37 (181 Pac. 676); *Treadwell v. Nickel*, 194 Cal. 243, 264 (228 Pac. 25); *Johnson v. Clarke*, 98 Cal. App. 358 (276 Pac. 1052).)" (Italics ours.)

In *Jensen v. Findley*, 17 Cal. App. (2d) 536, the court said:

“The hypothetical question propounded to Dr. Marsden did not set forth and include all of the treatment administered by defendant, and the objection made to it should have been sustained. * * * With plaintiff admitting that defendant placed some drug in his eye during each treatment, and his expert believing that nitrate of silver was the best specific for the disease, *the answer of the expert to the hypothetical question was of no value as the drug used was not named in the question asked and that part of the treatment administered by defendant was not referred to in it.*” (Italics ours.)

The case of *McCullough v. Langer*, 23 Cal. App. (2d) 510, is cumulative on the point that the hypothetical question must include the essential factors. On page 521, the court states:

“With respect to the challenged ruling upon the question asked of Dr. Dickinson it was purely hypothetical in its character. It failed to include many essential factors of the issues involved in the case at bar. As a hypothetical question it was clearly defective. An answer to that question would throw no light on the issues in the present case.”

In *Thoreau v. Ind. Acc. Com.*, 120 Cal. App. 67, where the opinion of a doctor was based on a false assumption, the court said that the conclusion of an expert based upon an improper hypothetical case is of no practical value. Other California cases to the same effect are: *Reese v. Smith*, 9 Cal. (2d) 324; *Citron v. Fields*, 30 Cal. App. (2d) 51; *Bickford v. Lawson*, 27 Cal. App. (2d) 416.

The federal decisions are in accord with the general rule.

In *Western Assur. Co. of Toronto v. J. H. Mohlman Co.*, 83 Fed. 811, a hypothetical question was asked as to how long a fire in a building would burn before the posts would be weakened and what time would elapse before fire and smoke would appear. The Circuit Court of Appeals said that the question was properly rejected because it gave no indication as to the whereabouts in the building the fire broke out and was therefore "mere wild guesswork".

In *Atlantic Life Ins. Co. v. Vaughn*, 71 Fed. (2d) 394, the court pointed out that the opinion of a physician given on direct examination would have supported the verdict, but the cross-examination had so destroyed the value of his original opinion through showing that opinion was based upon an assumption of fact rather than upon an actual fact that it was worthless, and held it would not support the verdict and for this reason reversed the decision of the lower court.

Furthermore, it is stated in 32 C. J. S. at page 220, that a witness, no matter how skilled, will not be permitted to guess or state a judgment based on conjecture, that is, the factual foundation must not be nebulous.

Twining was undoubtedly a skilled person, but had no personal knowledge of what occurred at the blossoming time, and therefore had to be interrogated through the medium of hypothetical questions. We believe it is useless for appellees to contend that Twin-

ing's erroneous laboratory experiments and calculations can be substituted for any personal observation, with the result that the only proper method by which he could be interrogated was through the medium of hypothetical questions. Regardless, however, of his laboratory experiments his lack of knowledge of the cause of the general crop shortage and the effect of the inclement weather in Monterey County strips his testimony of all probative value.

LAW RELATIVE TO PISTA'S AND ANDERSON'S TESTIMONY.

The rule in California is stated in *Johnson v. Western Air Express Corp.*, 45 Cal. App. (2d) 614 at 630.

“True, Mrs. Johnson was an experienced pilot, and as appellants contend may have been qualified as an expert, but she was not such in the operation of planes of the type and design of the one involved in the accident here in question. Therefore the question of whether she was qualified to give her opinion as evidence in the matter in issue was one for the decision of the trial judge in the first instance, and the qualifications of the witness are to be determined by the trial court before such opinion may be given. (*Fairbank v. Hughson*, 58 Cal. 314.) It is in itself in the nature of a trial of a question of fact by evidence addressed to the judge alone, and as on other decisions on questions of fact by a trial judge, his ruling thereon is a matter of discretion and will not be overturned on appeal unless there was an actual want of evidence to support it or a clear abuse of discretion in ruling upon the evidence

given on the subject. (*Howland v. Oakland etc. Co.*, 110 Cal. 513, 521 [42 Pac. 983]; *Mabry v. Randolph*, 7 Cal. App. 421, 427 [94 Pac. 403].) If there is any substantial evidence to support the ruling of the trial court, it will be upheld."

Appellant submits that under the foregoing rule there is no substantial evidence to support the ruling of the trial court, but that there is an actual want of evidence that either Pista or Anderson were skilled or possessed of any skill or knowledge relative to the effect of dust on pollination. In *Reynolds v. Jordan*, 6 Cal. 108, the syllabus reads: "The opinions of a person not an expert, are not evidence." Likewise in *Rassaert v. Mensch*, 17 Cal. App. 637, the syllabus reads: "No mere opinion evidence of an ordinary witness is admissible." *Largan v. Central R. R. Co.*, 40 Cal. 272, holds that the evidence which is purely a matter of opinion and not the statement of a fact should be excluded. In *Clinton v. Yates*, 88 Cal. App. 281, the court held the conclusions of witnesses were improper and that objections thereto were properly sustained. In *Barnett v. Atchison etc. Ry. Co.*, 99 Cal. App. 310, the court said:

"There had been no attempt to prove that the engineer was an expert upon the facts concerning which he was interrogated and there was no attempt to incorporate in the question the facts and circumstances upon which the witness was asked to express an opinion."

In many instances the courts have held that a lay witness cannot testify upon a subject which calls for

expert knowledge. In *Hoyt v. The Long Island R. R. Co.*, 57 N. Y. 678, a newspaper reporter who had visited many railroad accidents over a period of years was not permitted to testify as to the cause of a broken rail. Where a building collapsed, a brick mason was called as a witness, but in *Peteler etc. Co. v. Northwestern etc. Co.*, 61 N. W. 1024, it was held that he was not qualified because the matter upon which he was interrogated required the knowledge of other materials which were in the building. In *Duntley v. Inman, Poulsen & Co.*, 70 Pac. 526, 59 L. R. A. 785, Judge Bean held that a millwright with no experience in the manufacture of such articles cannot give his opinion as to what caused a pulley to break. In *Epstein v. Interurban Rapid Transit Co.*, 101 N. Y. Supp. 793, the court held an expert plumber was not qualified to give an expert opinion as to whether the sinking of an iron pillar was the cause of the breaking of a drain-pipe. In *Aetna Life Ins. Co. v. Kelley*, 70 Fed. (2d) 789, where the question was whether the insured died as a result of injuries or as a result of arteriosclerosis, the court held the existence of this specific disease was a strictly medical question and that the conclusions of a layman upon such an issue are without adequate basis and necessarily mere speculation.

With respect to Pista and Anderson, we submit that their testimony is devoid of any evidentiary value for the reason that there is not the slightest pretense that either of them had any knowledge whatsoever of the highly technical subject of the effect of dolomite dust on blossoming.

DISCUSSION OF QUESTION 4.

The law is settled that where injuries are alleged to have been caused by the defendant's negligence, and it appears that the injuries were occasioned by one of two causes, for one of which the defendant is responsible, but not for the other, the plaintiff must fail if the evidence does not show that the injury was the result of the former cause. If the testimony shows it was just as probable that it was caused by one as the other he cannot recover. In the case of *White v. Spreckels*, 10 Cal. App. 287, where a radiator exploded, the court said: "The cause of the explosion is a matter of conjecture from evidence in this record." In the *White* case the court said:

"The true rule, in our opinion, is laid down in *Searles v. Manhattan R. Co.*, 101 N. Y. 661 (5 N. E. 66), as follows: 'Where, in an action to recover damages for injuries alleged to have been caused by defendant's negligence, it appears that the injuries were occasioned by one of two causes, for one of which defendant is responsible but not for the other, plaintiff must fail if the evidence does not show that the injury was the result of the former cause. If under the testimony it was just as probable that it was caused by the one as the other, he cannot recover.'

In *Ryan v. Fall River Iron Works*, 200 Mass. 888 (86 N. E. 310), the supreme court of Massachusetts said: 'The occurrence of an accident standing alone is not always evidence of negligence. It may be as consistent with the innocence as with the fault of the person controlling the agency by which the accident happened. When the precise cause is left to conjecture, and may be as

reasonably attributed to a condition for which no liability attaches as to one to which it does, then a verdict should be directed against the plaintiff.'

To the same effect see note to *Mitchell v. Chicago & A. Ry. Co.*, 132 Mo. App. 143 (112 S. W. 291); *Warner v. Railway Co.*, 178 Mo. 125 (77 S. W. 67); *McGrath v. St. Louis Transit Co.*, 197 Mo. 97 (94 S. W. 872); *Robinson v. Empire City Subway Co.*, 53 Misc. Rep. 593 (103 N. Y. Supp. 717); *Strasburger v. Vogle*, 103 Md. 85 (63 Atl. 202).

As we have before said, the evidence does not clearly show that the accident was caused by an excessive pressure of steam. Nor is it so alleged in the complaint. If we rely on the doctrine of probabilities we might as reasonably infer that the explosion was caused by the use of wet towels upon the radiator, or by reason of the radiator having been changed or weakened by its use by the lessee, as that it was caused by an excessive pressure of steam. The evidence is not such as to raise a presumption which shows that the defendants were guilty of negligence."

From the evidence in the record the cause of the Pista crop loss is left to conjecture, and it may as reasonably be attributed to a condition to which no liability attaches as to one to which it does. Therefore under the doctrine of possibilities, it is just as reasonable to infer that the damage was caused by the weather as by the dust; in fact, in the light of the uniform crop shortage and Mr. Lewis' testimony, it is much more reasonable to infer that the injury was caused by the weather than by the dust. This is merely

another statement of the burden of proof rule, and appellant maintains that not only have the appellees failed to meet this rule because they produced no competent witnesses or competent testimony, but in addition, since the injury was the result of two causes, and since the precise cause under the testimony is left to conjecture, appellees have failed to prove their case.

DISCUSSION OF QUESTION 5.

It is further the position of appellant that not only was the testimony of Twining, Pista and Anderson pure conjecture as to the cause of the crop shortage, but that in addition thereto the trial court, when it attributed 50% of the short crop to dust and 40% to the weather, arbitrarily fixed this division by indulging in conjecture unsupported by any evidence whatsoever.

Lewis refused to venture even an opinion that the dust caused any injury. Twining stated the crop would have been seven, eight or nine times what it was, if it had not been for the dust; in other words, that the Pistas would have had a crop of somewhere between 184 tons and 236 tons if it had not been for the dust. Pista estimated that if it had not been for the dust he would have had a crop of 270 to 290 tons. Twining's and Pista's testimony is the sole testimony on this issue. Yet the court reached the conclusion that the appellees would have had a crop of 159.69 tons if it had not been for the dust. It reached this conclusion by arbitrarily determining that Pista's crop would have equaled the largest crop in the county, yet there

is not one word of testimony which in any way supports such a conclusion. In other words, without a scintilla of evidence to support its conclusion, the trial court, in order to render a judgment, picked upon an arbitrary figure which is without any support whatsoever in the evidence. In *Slater v. Pan American Oil Company*, 212 Cal. 648, a number of oil companies dumped their refuse in a ravine. There was a storm and the rain water falling upon the hills flowed down through the ravine carrying oil, salt and other hydrocarbon substances upon the respondents' property. About thirty oil wells drained into this ravine, of which the defendant company owned and operated two. The California Court pointed out (page 652) that there was no evidence as to the quantity which the defendant's wells contributed to the total volume. The court recognized the doctrine—that in case of negligence it may be difficult for a jury to determine just how much damage the defendant is liable for, and they have the right to use their best judgment and make their result, if not an absolutely accurate one, an approximation to accuracy, but the court said:

“Assuming that the total amount of oil, salt and hydrocarbon substances deposited upon the plaintiff's land had been by actual measurement 100 barrels, that the defendant made some contribution thereto, and that the total injury done was \$10,000. Could it be said that a court, without any knowledge whatsoever as to the contribution by the defendant, and upon the statement alone that there was some contribution, could apportion the damages as between the several wrongdoers? We think not.

* * * * *

Like all other cases for the recovery of damages in actions upon torts, a jury must be trusted to arrive at a fair estimate of the damages after a full consideration of all the evidence which may be introduced upon the subject. *However, competent evidence must be produced of all facts necessary to a recovery, upon which the jury can base a reasonably reliable conclusion; nothing can be left to mere conjecture.*" (Italics ours.)

Applying the foregoing rule, appellant contends that there has been no competent evidence produced upon which the trial court could reach a reasonably reliable conclusion, or which would in any way support the division of 50% to the dust and 40% to the weather. The evidence produced left everything to conjecture of the court, and the court indulged in such conjecture.

CONCLUSION.

It is submitted that the judgment was arrived at by piling the conjecture of the court upon the conjecture of the witnesses, and furthermore, that the objections to the hypothetical questions should have been sustained, and that therefore the judgment should be reversed.

Dated, San Francisco,

November 5, 1945.

Respectfully submitted,

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No. 11,019

IN THE

United States Circuit Court of Appeals

For the Ninth Circuit

THE PERMANENTE METALS CORPORATION
(a corporation),

Appellant,

VS.

B. PISTA and MARIE PISTA,

Appellees.

BRIEF FOR APPELLEES.

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IN THE
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THE PERMANENTE METALS CORPORATION
(a corporation),

Appellant,

vs.

B. PISTA and MARIE PISTA,

Appellees.

BRIEF FOR APPELLEES.

JURISDICTIONAL STATEMENT.

We acquiesce in appellant's statement of jurisdiction.

STATEMENT OF THE CASE.

The judgment awards to appellees damages for injury during the 1943 season to the crop from their apricot orchard caused by discharge into the atmosphere of finely crushed and calcined particles of dolomite from the stacks of appellant's nearby calcining plant in the Natividad district near Salinas, California.

Some corrections of appellant's statement of the case, their pages 2, 3 and 4, are needed. They say:

"Appellee's apricot orchard is approximately a mile distant from the plant."

Finding II, R. 31, reads:

"II. Plaintiffs are the owners of the real property described in paragraph 2 of their complaint and it consists of a ranch of approximately 56 acres, of which 44 acres comprise an apricot orchard which has been in full commercial bearing since approximately the year 1922. The exterior boundary of said orchard nearest the stacks hereinafter mentioned is approximately half a mile therefrom and the farthest exterior boundary is approximately one mile from said stacks."

They say that in 1943 "dust was discharged from the stacks of appellant's plant, some of which settled on appellee's orchard". The *quantity* discharged during the critical period in 1943 was enormous. The following portions of the findings, R. 31 and 32, are not attacked by appellant's brief:

"III. In the Natividad district, in Monterey County, California, the defendant has operated continuously since August 4, 1942, a dolomite quarry and calcine plant, the latter consisting of two rotary kilns in which crushed dolomite ore from said quarry is calcined at a temperature sufficiently high to expel from said ore the carbon dioxide therein, which is expelled in the form of a stream of hot gas into the atmosphere through two stacks, one to each of said kilns. Said stream of gas carries with it into the atmosphere extremely fine particles, i.e., dust, from said crushed ore. From the commencement of the operation, as aforesaid, in August, 1942, until a year

thereafter, in August, 1943, said dust was discharged out of said stacks into the atmosphere at an average rate of approximately 32 tons daily. In August, 1943, defendant installed as a part of said operation a mechanism known as a Cottrell precipitator, and since that installation the quantity of dust discharged from said stacks into the atmosphere has been reduced to a daily average of approximately 4 or 5 tons.

IV. Said dust, after discharge into the atmosphere, falls upon the ground and the vegetation thereon within a roughly circular area having a radius of approximately 3 miles from said stacks.

V. The dustfall, as aforesaid, was continuous upon said orchards of plaintiffs throughout the whole of the apricot blossoming time therein in the early part of the year 1943 * * *."

Appellant's statement says that in the 1943 season

"The apricot yield in Monterey County was approximately 20% of normal".

Their own agricultural expert, Mr. Packard, admitted during his cross-examination that the production of apricots in 1943 in Monterey County was 55% of the average production in preceding years, R. 639-640, and that the statewide average in California in 1943 was 42%, R. 630.

STATEMENT OF QUESTIONS INVOLVED.

Presumably, appellant uses this heading as a substitute for the specification of errors required by Rule 20(d). If so, it does not comply with the second sentence of Rule 20(d), with respect to the manner of specifying error alleged as to the admission or rejection of evidence.

ARGUMENT.

Appellant's argument upon the evidence pays little or no regard to that portion of Rule 52, FRCP, reading:

"Findings of fact shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court to judge of the credibility of the witnesses."

Thereunder, this Court has said with respect to conflicts in the evidence:

"This court has held that the rule is well settled that an appellate court will not disturb findings of the trial court based on conflicting evidence taken in open court except for clear error. *Pacific American Fisheries v. Hoof*, 9 Cir., 291 F. 306, 308; *United States v. Chinook Investment Co.*, 9 Cir., 136 F. 2d 984, 985; *Fox et al. v. Summit King Mines, Limited*, 9 Cir., 143 F. 2d 926, and citations therein. Furthermore, this court in *National Surety Company v. Globe Grain & Milling Co.*, 9 Cir., 256 F. 601, 4 A.L.R. 552, said that even where the appellate court is convinced that the finding could have been otherwise upon the evidence, the findings of the trial court are conclusive.

The findings of the trial court have the same effect as the verdict of a jury and should not be set aside unless clearly erroneous. 28 U.S.C.A. § 773."

Hartford Accident & Indemnity Co. v. Jasper, 9 Cir., 144 F. 2d 266, 267-268.

In *Seaboard Sand & Gravel Corp. v. American Stevedores*, 2 Cir., 151 F. 2d 846, at 847, col. 1, the Court said:

"As these findings were based on the evidence of witnesses who testified in court, which if believed was

a sufficient basis for them, we accept them since it is thus made apparent that they are not clearly erroneous",

to which the Court cited *Petterson Lighterage & T. Corp. v. New York Central R. Co.*, 2 Cir., 126 F. 2d 992, where, at p. 996, col. 2, it had said,

"that complex of sight and sound, from which we make our conclusions in a courtroom, is in large part eviscerated when reduced to the printed word."

DISCUSSION OF QUESTIONS 1, 2 AND 3.

Under this heading, appellant commingles argument on sufficiency of evidence with arguments on admissibility of evidence. We will make separate replies. The two questions are wholly distinct.

"Where, as here, the insufficiency of the evidence is the question to be determined, full weight must be given to evidence which would have been excluded had objection been made, and even to evidence erroneously admitted against objection provided it be relevant. Evidence may tend to prove the issues and yet be incompetent. Hayne on New Trial and Appeal, § 98."

Holzer v. Read, 216 Cal. 119, 123, 13 Pac. 2d 697, 698.

At most, in a non-jury case, an Appellate Court merely disregards erroneously admitted evidence and affirms findings supported by the relevant, competent and material evidence:

“In an equitable or other case tried by the court without a jury the appellate court considers only relevant, material, and competent evidence and disregards all other evidence, whether objected to or not.”

5 *C. J. S.* 136-137, note 37.

(a) Sufficiency of the evidence.

Under this heading we will present evidence received without objection. Much of it is from appellant's witnesses.

A chemical analysis of the dolomite in the quarry, before calcining in the kilns, disclosed the following composition, R. 155:

“Silica (SiO_2)	0.05%
Iron and Alumina (R_2O_3)	0.18%
Calcium Carbonate (CaCO_3)	56.34%
Magnesium Carbonate (MgCO_3)	43.40%”

Appellant's chemist, Dr. Duschak, testified, R. 236-237:

“Dolomite is a mineral which consists essentially of equal molecular quantities of calcium carbonate and magnesium carbonate. If I might refer to this writing made by Mr. Twining on the board, this first item in the circle, here, reading CaCO_3 MgCO_3 bracketed—that describes the composition of what we might call theoretically pure dolomite. Sometimes there is a little excess of magnesium carbonate or an excess of calcium carbonate. The composition is not absolutely fixed, that is, there is quite a range of composition of materials which would all be classed as dolomite, and then in addition to these two essential constituents we are apt to find small amounts of so-called impurities, such as silica, iron compounds, and

aluminum compounds, and possibly other substances in a small amount."

With respect to the chemistry of the calcining operation he testified, R. 240-241:

"Q. Doctor, will you describe to his Honor the chemical reaction or process that takes place when this dolomite ore is crushed and then put into the kilns under this temperature?

A. Yes, the operation is a very simple one. The crushed dolomite is heated by an intensely hot flame.

Q. Can you give us approximately the heat that it is heated to?

A. Heated to a temperature of twelve or thirteen hundred centigrade; that for the purpose of decomposing the dolomite, driving out the carbon dioxide and leaving behind the so-called calcine dolomite, which consists of a mixture of calcium and magnesium oxides together with the small amounts of impurities present.

Q. What is left behind is magnesium oxide and calcium oxide, is that correct?

A. That is the main product of the kiln, the product which is sought in the operation, a mixture of calcium and magnesium oxide with a small amount of impurities.

Q. What becomes of the carbon dioxide?

A. That carbon dioxide which is expelled from the dolomite on heating, together with the carbon dioxide from the combustion of the carbonaceous materials and the fuel used, pass up the stack together with the nitrogen which accompanies the oxygen used in burning the fuel.

Q. In the course of this trial there has been reference to dust. That dust comes from what source?

A. That dust is picked up by the stream of hot gas flowing through the kiln.

Q. And it goes where?

A. And it is carried along by the gas stream out through the so-called kiln housing, and since the Cottrell precipitator has been installed it passes through that; most of the dust is collected there. What is not collected passes on to the stack. A small amount will collect in the base of the stack, but a further small amount is carried up through the stack by the gas stream and discharged into the atmosphere."

It requires 1.834 tons of raw dolomite from the quarry, i.e., the mixture of calcium carbonate and magnesium carbonate, to produce one ton of kiln product, i.e., the mixture of calcium oxide and magnesium oxide, R. 423-424. The loss in weight comes from the weight of the carbon dioxide in the carbonates that the calcining expels in the form of a stream of hot gas out of the top of the stacks. That gaseous stream carries the dust particles along with it out of the top of the stacks. In size, 48% of the particles were 325 mesh (0.046 millimeter) and 52% were 5 to 10 microns in diameter, R. 320-321. One *pound* of the dolomite would make 1.66 *billion* particles of 325 mesh (46 microns on an edge); or 161.8 billion particles 10 microns in diameter; or 1295.5 billion particles, 5 microns in diameter, R. 430-431. For a year from the beginning of the operation of the calcining plant in August, 1942, until the installation of the Cottrell precipitators in August, 1943, the dust was discharged out of the stacks at an average rate of 32 tons daily. (Finding III, R. 31.) The critical period was the period of pollination and fertiliza-

tion, i.e., the period of white blossoms in appellees' apricot orchard, which in 1943 extended over three weeks beginning March 10, R. 695-696. During that period, March 10 to 31, the two kilns were operating on a 24-hour basis, one kiln continuously, and the other kiln 12 days of the 21, R. 409. A maximum capacity or load per kiln is 190 to 200 tons per kiln of finished product, R. 416, and through March, 1943, they were operated at the rate of 160 tons per day per kiln, R. 417.

On the question whether the dust injured the crop, the major trial issue was whether the dust landed in the orchard as oxides or hydroxides, or whether by the time of landing there had been a reversion to carbonates. Chemistry witnesses agreed that the dust when carbonate is an inert or neutral powder of chalky appearance, i.e., is neither alkaline or caustic, but that while oxide or hydroxide before reverting to carbonate it is alkaline, caustic. Appellant's chemist, Dr. Duschak, testified on cross-examination with respect to the effect of deposit of an alkaline substance on an apricot blossom, R. 447-449:

“Q. * * * Take the stigma in an apricot blossom. That is part of the fertilizing medium of the blossom, isn't it?

A. I would say part of the fertilizing mechanism.

Q. Mechanism—I will accept the statement. Now, does that stigma secrete or exude some substance?

A. Yes, at a certain time in the development of the blossom it secretes a small amount of viscous fluid.

Q. Is that viscous fluid thus secreted part of the process of pollinization and fertilization?

A. Yes, that is an essential part of the process.

Q. Is that viscous fluid acid or alkaline?

A. It is stated that it is slightly acid.

Q. Calcium oxide coming in contact with that would neutralize that acidity, wouldn't it?

A. If it dissolved, and if the quantity were sufficient.

Q. Now, you say if it dissolved. That viscous fluid contains some H_2O , does it not?

A. Yes.

Q. Calcium oxide has a strong appetite for H_2O , has it not?

A. Yes.

Q. As a matter of fact, wouldn't a deposit of calcium oxide on that viscous fluid secreted by the stigma immediately draw out of that viscous fluid the water in it and into the calcium oxide?

A. If we are speaking of a grain of pure calcium oxide, the answer is yes.

Q. Let us speak of a grain of calcium oxide that came immediately and directly from the calcium carbonate of that quarry on the hill there in Natividad. Wouldn't that have a strong appetite for the water or the H_2O in that viscous fluid of the stigma?

A. I don't know any way of getting a grain of pure calcium oxide from that quarry on the hill, because that is dolomite.

Q. Then let us call it an impure calcium oxide that was originally quarried out of the rock on the hill. Would that impure calcium oxide have a strong appetite for the water or H_2O in that viscous fluid of the stigma?

A. Yes.

Q. And if that calcium oxide landed on that viscous fluid it would exercise its appetite, take the water

of the viscous fluid, and turn the calcium oxide into a hydroxide, wouldn't it?

A. Yes, if the particle were calcium oxide on the surface.

Q. Wouldn't that simply be the difference of changing it from a slaked to an unslaked caustic lime?

A. Yes.

Q. Generating the heat and with the destructive power that the slaking of caustic lime generates?

A. Yes, I would expect that. I would expect that if a particle of calcium oxide lands on some moist vegetable surface and reacts with moisture there, that there would be a certain amount of heat generated and probably a little burn or caustic action, as we call it, evidenced.

Q. If that occurred on the viscous fluid or secretion of a stigma on an apricot blossom would you not expect that it would destroy fertilization?

A. Without question.

Q. There is no doubt about that, is there?

A. No doubt about that at all."

Appellant's agriculture expert, Mr. Packard, testified, R. 593:

"Q. What effect, if any, does caustic material landing on the stigma have?

A. Caustic material landing on the stigma would neutralize the acid reaction of the stigma.

Q. Would it affect fertilization?

A. Yes, if the area that is affected by the calcium hydroxide comes in contact with the pollen. If the pollen drops on a portion of the stigma that is not affected, of course, there would be no effect at all.

Q. It is the killing of the pollen, is it, or the killing of the stigma and this watery substance? Which is it?

A. It is the killing of the pollen."

The conflict in the evidence on the major trial issue arose over the chemical composition of the dust when it landed in the orchard. Appellant's chemist, Dr. Duschak, testified, R. 241-244:

“Q. And what is that dust? What is its chemical composition as it is discharged into the atmosphere?

A. That is a somewhat difficult question to answer. That is to say, the only way in which a precise answer could be obtained would be by collecting a sample of this material just as it escapes from the stack.

Q. Pardon me. May I interrupt for a minute? Approximately how tall are the stacks?

A. These stacks are approximately 200 feet tall. [He was in error; appellant's plant superintendent stated the height as about 120 to 130 feet, R. 420.]

Q. If you will proceed, please.

A. I have taken some samples at an elevation of about 100 feet, and I haven't with me at the moment the complete analyses of these samples, but I may say in general they will show the dust consists to a large extent of calcium and magnesium carbonate with a small amount of calcium and magnesium oxides and, of course, the traces of impurities.

I might explain further that this dust is material which is picked up throughout the length of each of the kilns. There are two kilns there. Their operation is in general identical. So that we will find the dust not consisting of a single material, but consisting of particles of entirely unchanged dolomite, the dolomite particles which have experienced slight calcination on the surface, and finally the particles which have been quite completely calcined. In other words, the dust, in a sense, represents a sort of average sample of the material which is in the kiln at any given time, rang-

ing all the way from the raw material at the one end to the completely calcined material at the other.

Q. You say you took samples about a hundred feet up the chimney?

A. About halfway up the stack.

Q. As that dust or gas, dust in gaseous form, passes up your chimney what chemical reaction takes place, if any, in your opinion, as it proceeds?

A. The chemical decomposition process which took place in the kiln begins to reverse itself as soon as the dust particles are removed from the high temperature zone. Calcium carbonate cannot be decomposed below a temperature of 900°C . * * * which is a bright red heat * * *. Magnesium carbonate cannot be decomposed below a temperature of 700°C . That is a moderate red heat. As soon as these calcine particles which contain magnesium carbonate and oxides pass to the point in the kiln where the temperature is below these levels, and in the presence of the kiln atmosphere containing both the carbon dioxide and the moisture, these oxide particles will begin to recombine with the carbon dioxide, and that process goes on progressively as the dust particles are carried through the flue system, up the stack, and continue out in the atmosphere.

Q. When they come into the atmosphere does their contact with the air also have some effect on the chemical characteristics of these dust particles?

A. This process of carbonation, as it might be called—that is, a conversion of the oxides into carbonates—it will go on continuously while the dust particles are in contact with the atmosphere, for the reason that the atmosphere contains a small amount of carbon dioxide and also contains moisture, which tends to catalyze or speed up this reaction.

Q. Eventually these dust particles which were originally oxides are, through contact with the air and with the carbon dioxide therein, and water, H_2O , converted into what, Doctor?

A. They become converted into calcium and magnesium carbonates. That is, chemically they become the same as the original calcine dolomite.

Q. In other words, eventually they become the same as the dolomite that is mined out of the quarry, is that it?

A. Yes.

The Court. Q. In its original state?

A. Not quite, because dolomite has a characteristic crystalline structure, and these little particles, when they are recarbonated, will not resume that crystal structure. There is that physical difference, but no chemical difference."

Dr. Duschak never analyzed the dust at the top of the stacks, R. 446, nor any freshly fallen dust in the orchard. The only analysis ever made by him was of dust taken halfway up the stack. His analysis showed 23% oxides, R. 313; he said, "I did not test for hydroxide, that is the reason I did not find it", R. 445. Appellant's agriculture expert, Mr. Packard, never made any test for oxides or hydroxides in the orchard, R. 647-648.

As against the *opinions* of appellant's witnesses about the theoretical absence of oxides or hydroxides at the time of landing on the orchard, we proved that as a *fact*, not mere opinion or theory, oxides and hydroxides were present in the dust when it landed on the orchard. Our chemist, Mr. Twining, made an analysis *in the orchard* of recently fallen dust, and he found as a *fact* that oxides and hydroxides were present. He testified, R. 700-702:

“Q. Did you or not test the recent deposit of dust in the Pista orchard from the Permanente stack to determine the presence or absence of any oxide?

A. Yes.

Q. Did you or not test day before yesterday right in the Pista orchard itself recently fallen dust from the stack to determine the presence or absence of hydroxide?

A. Well, the alkalinity would be oxide and hydroxide.

Q. All right. Now, upon that actual examination right within the orchard of dust freshly fallen, what did you find with respect to the absence of oxides and hydroxides?

A. They were present in the dust.

Q. In the dust—you mean the Permanente dust?

A. Yes, that is, the dust on the trees and vegetation there.

Q. State from your inspection whether you can say one way or the other whether the Permanente dust—out of the Permanente stack—had fully carbonated by the time it landed on the Pista vegetation.

A. A considerable portion of it has not. It carbonates very slowly.

Q. Now, state just how you went about this test, what you as a chemist did to make the test. * * *

A. We used indicators—certain indicators that show whether the solution is alkaline.

The Court. Q. Tell us what they were.

A. We used phenol red and phenolphthalein, two different indicators I used.

Mr. Naus. Q. How were they used, Mr. Twining?

A. Well, they are the solutions that we add to a solution of the dust to determine whether it is an oxide or hydroxide. We make a watery solution, we

use the indicators and from the color we know whether it is acid or alkaline.

Q. Then the chemical reaction is one of color is it?

A. That is right.

Q. What color did you get reacted there to determine the presence——

A. In both cases we get a red—deep red.”

And on cross-examination, R. 704-706:

“Q. All right. Now we come to your testimony that has just been given. You say when you were down there the kilns were not operating.

A. Tuesday.

Q. And yet you say you took freshly fallen dust.

A. Well, that may have been two or three weeks old. Sometimes it don't carbonate for months.

Q. Now, do I understand you—what do you mean by ‘carbonate’?

A. I mean that it is—the hydroxide unites with carbon dioxide to form a carbonate. That may take a long time; it depends on the amount of carbon dioxide in the atmosphere and the condition of oxide or hydroxide.

Q. Well, very small particles of magnesium oxide or calcium oxide passing out in the form of dust, don't they start to carbonate the moment they come in contact with the air?

A. The moment they come in contact with carbon dioxide, of which there is a very small amount in the air.

Q. Will you please answer my question: Don't they commence to carbonate as soon as they come in contact with the air?

A. You might say ‘commence’, yes.

Q. As a matter of fact, they commence going up the stack there even before they come in contact with the air?

A. No, I think not.

Q. In other words, you disagree with Professor Duschak?

A. Not at a temperature of 900 or 1000 or more. There would be no use calcining it if it carbonated at those temperatures.

Q. I am asking you if they don't commence as they go up the stack. Don't they commence to pick up carbon dioxide?

A. Not at the stack temperatures.

Q. You are positive of that?

A. Yes."

(Mr. Twining's written reports, received in evidence without objection, R. 145, covering his earlier analyses appear as our Exhibit No. 4, at R. 146 to 156.)

Our proof of the fact of oxides and hydroxides in the fallen dust is opposed only by the opinion of appellant's witness. Facts outweigh "scientific" opinions or estimates contrary thereto, 32 C.J.S. 423, note 98; *Grant v. U. S.*, 74 F. 2d 302; *U. S. v. Ingalls*, 67 F. 2d 593, 596, col. 2, including the field of chemistry; 32 C.J.S. 425, note 4. The trial conflict in the evidence is therefore more apparent than real, because the opinion must yield to the fact; and the *fact* supports the judgment at bar.

As to quantum of injury, and the effect of rainfall, we will show the sufficiency of the evidence under the heading "Discussion of Question 5", *infra*.

The local law of California with respect to the liability for discharging into the atmosphere injurious substances

arising from an industrial operation will be found to embrace *inter alia* the following cases: *Hulbert v. California Portland Cement Co.*, 161 Cal. 239, 118 Pac. 928, 38 L.R.A. N.S. 436, and *California Orange Co. v. Riverside Portland Cement Co.*, 50 Cal. App. 522, 195 Pac. 694, “**cement dust**”; *People v. Selby Smelting & Lead Co.*, 163 Cal. 84, 124 Pac. 692, Ann. Cas. 1913E, 1267, smelter substances; *Centoni v. Ingalls*, 113 Cal. App. 192, 298 Pac. 47, dust from stockpiles of finely disintegrated dry clay; *McIntosh v. Brimmer*, 68 Cal. App. 770, 230 Pac. 203, dust from chicken ranch (this case cites *inter alia* Notes in 3 A.L.R. 312 and 11 A.L.R. 1401, “Dust as Nuisance”); *Miles v. A. Arena & Co.*, 23 C. A. 2d 680, 73 Pac. 2d 1260, calcium arsenate dust from power dusting attachment of airplane; *Tuebner v. California Street R. Co.*, 66 Cal. 171, 4 Pac. 1162; *Sullivan v. Royer*, 72 Cal. 248, 13 Pac. 655; *Dauberman v. Grant*, 198 Cal. 586, 246 Pac. 319, 48 A.L.R. 1244, and *Williams v. Blue Bird Laundry Co.*, 85 Cal. App. 388, 259 Pac. 484. The California rule as to dust constituting a nuisance gives a simple and clear test: Did the Natividad kiln dust cause “perceptible injury” to the Pista property? We quote:

“A property owner is entitled to the peaceful enjoyment of his property free from any unlawful invasion of his rights of ownership by the act of another. Dust constitutes a nuisance if it ‘causes perceptible injury to the property, or so pollutes the air as sensibly to impair the enjoyment thereof’. *Tuebner v. California Street R. R. Co.*, 66 Cal. 171, 4 P. 1162, 1164; *California Orange Co. v. Riverside Portland Cement Co.*, 50 Cal. App. 522, 195 P. 694; *Hulbert v. California, etc., Co.*, 161 Cal. 239, 118 P.

928, 38 L.R.A. (N.S.) 436; *McIntosh v. Brimmer*, 68 Cal. App. 770, 230 P. 203.”

Centoni v. Ingalls, supra (113 Cal. App. 192);

Miles v. A. Arena & Co., supra (23 C. A. 2d 680).

“Nor will the adoption of the most approved appliances and methods of production justify the continuance of that which, in spite of them, remains a nuisance. *Evans v. Fertilizing Co.*, 160 Pa. 223, 28 A. 702, *Susquehanna Fer. Co. v. Malone*, 73 Md. 276, 20 A. 900, 9 L.R.A. 737, 25 Am. St. Rep. 595; *Susquehanna Fer. Co. v. Spangler*, 86 Md. 562, 39 A. 270, 63 Am. St. Rep. 533. See, also, *Vowinkel v. N. Clark & Sons*, 216 Cal. 156, 13 P. 2d 733; *Judson v. Los Angeles Suburban Gas Co.*, 157 Cal. 168, 106 P. 581, 26 L.R.A. (N.S.) 183, 21 Ann. Cas. 1247; *Fendley v. City of Anaheim*, 110 Cal. App. 731, 294 P. 769; *Williams v. Blue Bird Laundry Co.*, 85 Cal. App. 388, 259 P. 484.”

Miles v. A. Arena & Co., supra (23 C. A. 2d 680).

And in California a clear distinction is drawn between cases of perceptible injury to property from dust and cases of mere personal discomfort. We quote:

“It is important to consider whether the acts complained of in any particular case cause an injury to property or only to the personal comfort of the complaining party. For there is a marked distinction between an action for nuisance in respect to an act producing a material injury to property, as where trees or fruit are injured by dust or noxious gases, and an action brought in respect to an act producing personal discomfort only, such, for example, as noises, disagreeable smells, et cetera. As to the latter,

the person complaining of the annoyance must submit, in the interest of the public generally, to the discomfort usually incident to the circumstances of the place and the trades carried on around him. But the same rule does not apply where the injury is to property. See *St. Helen's Smelting Co. v. Tipping*, 11 H. L. Cas. 642."

McIntosh v. Brimmer, 68 Cal. App. 770, 777, 230 Pac. 203.

(b) Admissibility of evidence.

1. "The law relative to Twining's testimony". (Appellant's Brief, p. 28.) At page 17 of appellant's brief a hypothetical question put by us to Mr. Twining is quoted, R. 169. Appellant's objection thereto, not quoted by it, appears at R. 169-170. In the text of the objection, to particularize it, counsel said, R. 170:

"As I understand it, your Honor, a hypothetical question asked an expert witness, asking for his opinion, has to include every fact that has been disclosed in the evidence, and I do not think that Mr. Lewis' testimony is included here at all with regard to the cold and foggy weather and the three cycles of blossoming."

Appellant's argument to the objection is at pp. 28 to 33 of its brief, and is confined to the limitation of facts in the question.

The objection is unsound. Under Rule 43(a) FRCP, if evidence is admissible under either Federal or California law, the law "which favors the reception of the evidence governs". In *U. S. v. Aspinwall*, 9 Cir., 96 F. 2d 867, 869, this Court ruled:

“The objection that appellees limited the facts in question, or included a great many, is not tenable, we think. The questioner may limit the facts, and the fairness of the question is largely in the trial court’s discretion. 1 Wigmore on Evidence, 2d Ed., §682.”

In the Wigmore section there cited it is said:

“The question, on principle, need not include any particular number of facts; *i. e.* it may assume any one or more facts whatever, and *need not cover all the facts which the questioner alleges* in his case. The questioner is entitled to the witness’ opinion on any combination of facts that he may choose. It is often convenient and even necessary to obtain that opinion upon a state of facts falling short of what he or his opponent expects to prove, because the questioner cannot tell how much of the testimony the jury will accept; and if proof of the whole should fail, still proof of some essential part might be made and an opinion based on that part is entitled to be provided for the jury. For reasons of principle, then, and to some extent of policy, the natural conclusion would be that the questioner need not cover in his hypothesis the entire body of testimony put forward on that point by him or by the opponent, but may take as limited a selection as he pleases and obtain an opinion on that basis.”

The principal case in California is *Treadwell v. Nickel*, 194 Cal. 243, at 267, 228 Pac. 25, at 35, where it was said:

“Every hypothesis contained in the question should have some evidence to sustain it. But while this is true, it is also the rule that it is not necessary, in framing the question, to include a statement of all the evidence in the case. The question may be framed

upon any theory of the questioning party which can be deduced from the evidence, and the statement may assume any facts, within the limits of the evidence, upon which the opinion of the expert is desired. It may omit any facts not deemed by the questioner material to the inquiry. 10 Cal. Jur. p. 966, §223. It is the privilege of a party in such cases to assume, within the limits of the evidence, any statement of the facts which he claims the evidence justifies, and have the opinion of experts upon the facts thus assumed, subject to the limitation that the question shall not be unfair or misleading. Thompson on Trials, §§ 606-610; *People v. Hill*, 116 Cal. 562, 567, 48 Pac. 711. Measured by these considerations, the question here was not objectionable."

The propriety of the question with respect to the limitation of facts in it was largely for determination by the trial Court. In *Christiansen v. Hollings*, 44 C. A. 2d 332, at 348, 112 P. 2d 723, at 731, it was said:

"Defendant also makes the familiar contention that the hypothetical question did not include all the relevant facts. Obviously, a hypothetical question need not necessarily include a statement of all of the evidence in the case—a question may be properly framed upon any reasonable theory of the questioning party. *Coyne v. Pacific Mut. Life Ins. Co.*, 8 Cal. App. 2d 104, 47 P. 2d 1079. Moreover, the appellate court is justified in placing considerable reliance upon the determination of the trial judge in passing on the sufficiency of the facts narrated in the question. *Weaver v. Shell Company*, 34 Cal. App. 2d 713, 94 P. 2d 364; *Graves v. Union Oil Co.*, 36 Cal. App. 766, 173 P. 618."

The cases cited at pages 29, et seq., of appellant's brief are nearly all instances of *affirmances* of the ruling of the trial Court, regardless of whether the question was allowed or disallowed. The case cited near the foot of their page 31, *Thoreau v. Ind. Acc. Comm.*, distinguishes on the ground of falsity in the hypothesis. Our hypothesis was based upon facts proved.

Moreover, the trial Court in overruling the objection invited appellant to cross-examine upon the question, R. 170, and there was cross-examination upon it, R. 217 to 221, in the course of the long cross-examination of Mr. Twining from R. 174 to 221, and recross at R. 225 to 227. As to cross-examination, it is said in *New York Life Ins. Co. v. Doerksen*, 10 Cir., 75 F. 2d 96, 102:

"A hypothetical question should incorporate facts supported by evidence, but need not include all the facts in evidence nor facts or theories advanced by the adversary. If the adversary desires the opinion of the expert upon the facts as he asserts them to be, he can obtain it on cross-examination."

2. "Law relative to Pista's and Anderson's testimony". (Appellant's Brief, p. 33.) (a) Appellant argues that an experienced apricot orchardist is not qualified to testify about the injury done by the dust in an apricot orchard. Four orchardists testified: B. Pista, appellee, on his case in chief, R. 49; two called by *appellant*, J. J. Wilmoth, R. 381, and William D. Eiper, R. 399; and Leo Anderson, called by us in rebuttal for plaintiff, R. 530.

We did not object to the questions put by appellant to Wilmoth and Eiper, being content to cross-examine and

leave the weight of the evidence to the trial Court. And appellant did not object to the question put by us to our witness Anderson in rebuttal, R. 535 (bottom). Anderson having testified without objection, there is no basis in the record for appellant to assert error as to admission of his testimony.

(b) The testimony from Mr. Pista to which appellant objected is quoted at page 26 of their brief, and in substance is that if the dust had not fallen on his orchard he would have harvested "from 200 to 250 tons" of apricots instead of the 27 tons harvested, i. e., a loss of 173 to 223 tons. If there was error in admitting the testimony it was harmless, because Finding V, R. 32, puts the loss from dust at 133 tons, and the finding is based on evidence wholly independent from Pista's testimony. (See bottom paragraph of page 3 of appellant's brief.) In short, the trial Court disregarded the answer of Mr. Pista to which appellant objects.

(c) If there was error, appellant waived it. "Error in the admission of evidence is waived where the party aggrieved thereby subsequently introduces the same evidence", 5 C. J. S. 193, note 41. Subsequent to the admission of Pista's evidence at R. 66 giving the opinion of an apricot orchardist that the dust caused injury to a crop of apricots, appellant introduced testimony from two apricot orchardists, Wilmoth, R. 381 at 383-384, and Eiper, R. 399 at 401-402, as to the sole cause of a short crop in 1943. Some of the dust fell on Wilmoth's orchard; none fell on Eiper's. Thereafter, our rebuttal witness Anderson, R. 530, whose apricot orchard is in sub-

stantially the same area of dustfall as ours but nearer the kiln stacks, gave the following testimony without objection to its admission, R. 535:

“Q. State whether or not any dust traveled from this plant, whether you observed any of this dust traveling through the year 1943 over to your orchard.

A. Yes, sir.

Q. Now, Mr. Anderson, what do you believe to be the reason for your 17 acres producing no more than 10 tons in the year 1943?

A. I believe a covering of dust on the blossoms killed, you know, the blossom so it would not form fruit.”

(d) There was no error in admitting Pista’s testimony. This is the appellate question:

“The determination of the competency of a witness to testify as an expert is in itself in the nature of a trial of a question of fact addressed to the judge alone, and as in other decisions on questions of fact by a trial judge, his ruling thereon, being a matter of discretion, will not be overturned on appeal save and except when there is an actual want of evidence to support it or a clear abuse of discretion in ruling upon the evidence proffered upon the subject. When there is any substantial evidence to support the ruling of the trial judge, it will be upheld.”

Mirich v. Balsinger, 53 Cal. App. 2d 103, at 114, 127 Pac. 2d 639, at 644, col. 2.

“Therefore the question of whether she was qualified to give her opinion as evidence in the matter in issue was one for the decision of the trial judge in the first instance, and the qualifications of the

witness are to be determined by the trial court before such opinion may be given. *Fairbank v. Hughson*, 58 Cal. 314. It is in itself in the nature of a trial of a question of fact by evidence addressed to the judge alone, and as on other decisions on question of fact by a trial judge, his ruling thereon is a matter of discretion and will not be overturned on appeal unless there was an actual want of evidence to support it or a clear abuse of discretion in ruling upon the evidence given on the subject. *Howland v. Oakland, etc., Co.*, 110 Cal. 513, 521, 42 P. 983; *Mabry v. Randolph*, 7 Cal. App. 421, 427, 94 P. 403. If there is any substantial evidence to support the ruling of the trial court, it will be upheld. If the court had decided to admit the expert testimony here in question, such decision would in like manner be sustained. There being in the record evidence to support the ruling of the trial judge, and perceiving no abuse of discretion in such ruling, we cannot say that it was sufficiently prejudicial to warrant a reversal. *Rudat v. Carithers*, 137 Cal. App. 92, 97, 30 P. 2d 435."

Johnson v. Western Air Express Corp. 45 Cal. App. 2d 614 at 630, 114 Pac. 2d 688 at 697, col. 2.

Here, the evidence shows that the witness Pista owned the apricot orchard. He planted most of the 44 acres of apricot orchard in the year 1911, R. 50, and the remainder in 1916, R. 51. In six or seven years after planting, the trees came into full commercial bearing, R. 51, i. e., most of the trees were in full commercial bearing for 25 years before the dust damage in 1943. Throughout that quarter of a century, he was the expert manager of this commercially producing apricot orchard with continuous ob-

servation through the 25 years of the conditions in each year and their practical effect upon each annual crop, and he had the orchard under his personal observation and supervision during the dustfall in the year 1943, R. 52, two or three times a week, R. 55.

In *Watson v. Colusa-Parrott Mining & Smelting Co.*, 31 Mont. 513, 79 Pac. 14, a question arose on the competency of farmers of riparian land below a concentrating, smelting and reduction plant to testify to the extent of damage from the nuisance tort through the deposit of substances from the plant in the stream at a point above the farms. *Inter alia*, the Court said (79 Pac. at 17, col. 1):

“In considering the testimony of witnesses as to the amount of plaintiffs’ injury because of the nuisance, however, we enter the domain of opinions, inferences, and conclusions of witnesses. As to nonexpert witnesses, the general principles of evidence require them to testify as to facts within their own knowledge, and not to opinions, inferences, and conclusions from existing facts. Section 3121, Code Civ. Proc. There are, however, many exceptions to these principles, and no general rule can be announced whereby the existence of all these exceptions can be accurately stated. But some are so generally accepted that no rule as to the determination of their existence need be invoked. For instance, this court has recognized the exception of proof of value when the witness has shown himself qualified to express an opinion thereon. *Holland v. Huston*, 20 Mont. 84, 49 Pac. 390. *Emerson v. Bigler*, 21 Mont. 200, 53 Pac. 621; *Porter v. Hawkins*, 27 Mont. 486, 71 Pac. 664. This exception has been recognized by the courts almost uniformly. We have seen that the measure of damage to the land permanently injured is the difference

between its value before and after the injury. Given testimony of this value, which may be shown by the opinions of nonexpert witnesses, the determination of the amount of injury or damage is a mere matter of computation, and upon reason and weight of authority, its computation may be made and given to the jury by nonexpert witnesses when they do so in connection with the facts showing competency. *Lewis on Eminent Domain*. §§ 436, 437, and cases cited; *Rogers on Expert Testimony*, 154, and cases. The knowledge of the witnesses can always be thoroughly tested on cross-examination, and a jury can be trusted to give the evidence such weight only as it deserves."

The governing principle is well stated in the opinion on rehearing in *St. Louis & S. F. Ry. Co. v. Bradley*, 5 Cir., 54 Fed. 630, at 633-634, as follows:

"He was an expert for the case; not a scientific one, but a practical one. His opportunities for observation and the character and sufficiency of his experience were fully shown. It was for the jury to determine the weight to which his opinion was entitled. As a matter of law, the qualification of a witness to testify as to cause and effect in a given case is a question for the trial judge, and his ruling will not be disturbed unless clearly erroneous. 'Whether a witness called to testify to any matter of opinion has such qualifications and knowledge as to make his testimony admissible is a preliminary question for the judge presiding at the trial, and his decision of it is conclusive, unless clearly shown to be erroneous in a matter of law.' *Manufacturing Co. v. Phelps*, 130 U. S. 520, 9 Sup. Ct. Rep. 601, citing *Perkins v. Stickney*, 132 Mass. 217; *Sorg v. German Congregation*, 63 Pa. St. 156. The Massachusetts

case holds that the decision of the trial judge is conclusive, unless it appears upon the evidence to have been erroneous, or to have been founded upon some error in law; citing *Nunes v. Perry*, 113 Mass. 274, and *Com. v. Sturtivant*, 117 Mass. 122. In *Sorg v. German Congregation*, *supra*, it is said: 'This preliminary question of fact as to whether a witness is an expert qualified to pronounce an opinion, as we have held in *Oil Co. v. Gilson* (decided in this term,) must, in a great measure, be confided in the discretion of the court below trying the cause, and we will not reverse either on account of admission or rejection of such evidence unless in a clear and strong case.'

In *Oil Co. v. Gilson*, 63 Pa. St. 146, referred to, it is said: 'An expert, as the word imports, is one having had experience. No clearly defined rule is to be found in books as to what constitutes an expert. Much depends upon the nature of the question in regard to which an opinion is asked. There are some matters of which every man with ordinary opportunities of observation is able to form a reliable opinion. *Wilkinson v. Moseley*, 30 Ala. 562; *De Witt v. Barly*, 17 N. Y. 340. It is not necessary, as it is said in one case, to call a drover or butcher to prove the value of a cow, (*Railroad Co. v. Irvin*, 27 Ill. 178); nor is it imperatively required that the business or profession of the witness should be that which would enable him to form an opinion, (*Van Deusen v. Young*, 29 Barb. 9; *Smith v. Hill*, 22 Barb. 656; *Price v. Powell*, 3 N. Y. 322; *Fowler v. Middlesex*, 6 Allen 92.) * * * While undoubtedly it must appear that the witness has enjoyed some means of special knowledge or experience, no rule can be laid down in the nature of things as to the extent of it. It must be for the jury to judge of the weight to which his opinion is entitled.' "

DISCUSSION OF QUESTIONS 4 AND 5.

We argue these two questions together because they blend.

The argument for appellant reduces to the proposition that the damage in 1943 is explainable on the basis of natural causes operating in that year, and from that appellant argues that there can be no basis other than surmise or conjecture to conclude that the dust oxides and hydroxides caused any damages. This case is not the first one in which such an argument has been made. The Federal Courts and the Courts of California have often analyzed that type of argument and have as often ruled it to be unsound. For example, in *Learned v. Castle*, 78 Cal. 454, the water that flooded plaintiff's land came in part from the defendant's nuisance and in part from natural causes. As stated in the opinion (78 Cal. at 457-458):

“The action was commenced in August, 1878; and the first main damage to plaintiffs' land by the said alleged turning of the water upon it is averred to have taken place in January and February of that year. There is no doubt that in those months a very large quantity of water was caused, by said acts of defendants, to flow upon plaintiffs' land. It happened, however, that at that time, owing to unusual floods, other large quantities of water also flowed upon plaintiffs' land from natural sources; and this coincidence seems to have been the cause of much of the confusion and conflict which appear in the findings of the court and the answers of the jury to the issues presented to them. It seems to have been thought that, as the water which flooded the land from other sources would probably, or certainly, have caused the damage averred

in the complaint, if the water caused to flow there by the acts of defendants had not been mingled with it, therefore the latter should not be considered as having added much to the injury. (It may be remarked, however, that it is difficult to find the principle upon which damage done by commingled water, coming from two sources, can be attributed to one of the original sources rather than the other.)”

Inter alia the Court ruled (78 Cal. at 460-461):

“It clearly appears in the evidence that at that time plaintiffs were largely and seriously damaged by water flowing onto and over their land, and that a very large part of that water was caused to flow there by the acts of defendants. It is true that when the damage was done *at that time*, the water from the canal was mingled with water from other sources, which (it may be admitted) was of a larger volume than that of the water brought there by defendants; and it may have been difficult to separate the mingled elements of mischief, and calculate with any great exactness the proportionate amount of damage done by each. But surely there was no warrant for finding that all the damage was done by the other water, and none (practically) by the water poured onto plaintiffs’ land by the canal. A wrong-doer who contributes to a damage cannot escape entirely because his proportional contribution to the result cannot be accurately measured. (In a case like the one at bar, it would be at least as near justice to hold him for all the damage as to hold him for none.”

The rule of *Learned v. Castle*, *supra*, was applied in *Hanlon Drydock & Shipbuilding Co. v. Southern Pacific Co.*, 92 Cal. App. 230, where the question was whether

the fire damage would have occurred in any event even though the blocking of a street crossing by a train had not caused some delay to the firemen in reaching the fire. *Inter alia* the Court said (92 Cal. App. 235):

“Finally, it is argued that respondent could not recover in any event because the damages it suffered were speculative, contingent, and remote. When the acts complained of are the proximate cause of the damage suffered the guilty party is not to be relieved merely because the extent of the damage cannot be accurately measured. (17 Cor. Jur., p. 756, 759; *Learned v. Castle*, 78 Cal. 454, 461 [18 Pac. 872, 21 Pac. 11].) It has been said that where the circumstances are such that an exact computation of the damages cannot be made, ‘the approved practice is to leave it to the good sense of the jury, as reasonable men, to form from the evidence the best estimate that can be made under the circumstances, as a basis of compensatory damages for the actionable injury.’ (*Jenkins v. Pennsylvania R. Co.*, 67 N.J.L. 331 [57 L.R.A. 309, 51 Atl. 704, 705].) Here the evidence tended to prove that when the firemen endeavored to cross the railroad tracks the fire was confined to a rubbish pile in the yard and had not reached the building in which the property lost was stored. It is respondent’s contention that if the street had not been blocked by appellant the firemen would have been able to prevent all this loss and hence that the damage could have been easily ascertained.”

It appeared in the case of *Katenkamp v. Union Realty Co.*, 36 Cal. App. 2d 602, that either the breakwater or the groins could alone have caused the damage. The defendant was responsible for the groins but not for the breakwater,

i.e., for only one of two causes. The Court applied the rule as stated in 26 R.C.L. 764, as follows (36 C.A. 2d at 619):

“ ‘The weight of authority is to the effect that where separate and independent acts of negligence of two parties are the direct causes of a single injury to a third person, and it is impossible to determine in what proportion each contributed to the injury, either is responsible for the whole injury; and this although his act alone might not have caused the entire injury, and although, without fault on his part, the same damage would have resulted from the act of the other.’ ”

In *Zinn v. Ex-Cell-O Corp.*, 24 Cal. 2d 290, 297, 149 Pac. 2d 177, 181, col. 2, it is said:

“One whose wrongful conduct has rendered difficult the ascertainment of the damages cannot escape liability because the damages could not be measured with exactness. *Pacific, etc., Co. v. Alaska Packers' Ass'n*, 138 Cal. 632, 638, 72 P. 161; 15 Am. Jur. 412, and cases cited.”

The Supreme Court of the United States, in *Miller v. Union Pacific R. Co.*, 290 U.S. 227, at 236-237, stated the rule as follows, through quotation from another case:

“The truth of the matter is that the causes of the injury were concurrent. The accumulation of the gas was one; the lighted match was the other. The effect of the former had not ceased, but co-operated with that of the other in effecting the injury. In such case an inquiry about the proximate cause is not pertinent, for both are liable.”

So in *Story Parchment Co. v. Paterson Parchment Paper Co.*, 282 U.S. 555, 563:

“Where the tort itself is of such a nature as to preclude the ascertainment of the amount of damages with certainty, it would be a perversion of fundamental principles of justice to deny all relief to the injured person, and thereby relieve the wrongdoer from making any amend for his acts. In such case, while the damages may not be determined by mere speculation or guess, it will be enough if the evidence show the extent of the damages as a matter of just and reasonable inference, although the result be only **approximate**. The wrongdoer is not entitled to complain that they cannot be measured with the exactness and precision that would be possible if the case, which he alone is responsible for making, were otherwise. *Eastman Kodak Co. v. Southern Photo Materials Co.*, 273 U.S. 359, 379, 71 L. ed 684, 691, 47 S. Ct. 400. Compare *The Seven Bros. (D.C.)* 170 Fed. 126, 128; *Pacific Steam Whaling Co. v. Alaska Packers’ Asso.*, 138 Cal. 632, 638, 72 Pac. 161. As the supreme court of Michigan has forcefully declared, the risk of the uncertainty should be thrown upon the wrongdoer instead of upon the injured party. *Allison v. Chandler*, 11 Mich. 542, 550-556. That was a case sounding in tort, and at page 555, the court, speaking through Christiancy, J., said: ‘But shall the injured party in an action of tort which may happen to furnish no element of certainty, be allowed to recover no damages (or merely nominal), because he cannot show the exact amount with certainty, though he is ready to show to the satisfaction of the jury, that he has suffered large damages by the injury? Certainty, it is true, would thus be attained; but it would be the certainty of injustice. * * * Juries

are allowed to act upon probable and inferential, as well as direct and positive proof. And when, from the nature of the case, the amount of the damages can not be estimated with certainty, or only a part of them can be so estimated, we can see no objection to placing before the jury all the facts and circumstances of the case, having any tendency to show damages, or their probable amount; so as to enable them to make the most intelligible and probable estimate which the nature of the case will permit.' "

In the Ninth Circuit the rule was recently stated as follows, in *Husky Refining Co. v. Barnes*, 9 Cir., 119 F. 2d 715, at 716, col. 2:

"Where the independent tortious acts of two persons combine to produce an injury indivisible in its nature, either tort-feasor may be held for the entire damage—not because he is responsible for the act of the other, but because his own act is regarded in law as a cause of the injury. *Miller v. Union Pacific R. Co.*, 290 U.S. 227, 54 S. Ct. 172, 78 L. Ed. 285; *Washington & G. R. Co. v. Hickey*, 166 U.S. 521, 17 S. Ct. 661, 41 L. Ed. 1101; *Cordiner v. Los Angeles Traction Co.*, 5 Cal. App. 400, 91 P. 436; *The Kursk* [1924] P. 140, 40 T.L.R. 399, 131 L.R. 700; Restatement, Torts, vol. 2, § 430, Comment d; 19 Cal. L. Rev. 630; 25 Cal. L. Rev. 413, 432, 24 Col. L. Rev. 891; 21 Minn. L. Rev. 616."

Turning more directly to an analysis of a situation wherein there has been damage in an orchard from two or more causes only one of which was dust, the matter was decided in *California Orange Co. v. Riverside Portland Cement Co.*, 50 Cal. App. 522, 195 Pac. 694, from which we quote:

“In cases of this sort, the law is that, if it be impossible to distinguish between the damage arising from the defendant’s actionable injury and damage which has another origin, the jury, or the trial judge if the cause be tried without a jury, should be left to make from the evidence the best possible estimate, and to award the plaintiff compensatory damages for the actionable injury. In *Jenkins v. Pennsylvania R. Co.*, supra, the rule was stated as follows: ‘It many times happens that the damage arising from an actionable injury, chargeable to the defendant, is, in the nature of things or from the circumstances of the case, indistinguishable from other damage occurring at the time, attributable to the acts of an independent tort-feasor or to natural causes. In such cases, since the injured party cannot supply the materials necessary to enable the jury to make an exact computation of the damages in suit, the approved practice is to leave it to the good sense of the jury, as reasonable men, to form from the evidence the best estimate that can be made under the circumstances, as a basis of compensatory damages for the actionable injury.’ The evidence here shows that plaintiff’s grove, though not subject to any greater damage from the elements than other groves situated outside the zone of falling cement dust, **did not produce as did the groves similarly situated outside the dust zone.** W. B. Gregor, who had a grove about a mile and a half north of defendant’s property, testified that there was no deposit of grayish substance on the trees in his grove, and that the blossoms on his trees did not fall off as they did from the trees in defendant’s grove. From the foregoing we think it clear that the evidence shows that plaintiff’s orchard suffered substantial damage, directly attributable to

defendant's wrongful operation of its cement plant, whereby cement dust, in quantities sufficient to cause material injury, was precipitated upon plaintiff's citrus trees, and that therefore the evidence is sufficient to support the findings of which appellant complains."

In other words, evidentiary support of the award was found by comparing the crop of the orchard within the dust zone with the crop of another orchard outside the dust zone but *otherwise subject to the same natural causes and elements*. We have fuller, clearer and stronger evidence of that kind in the case at bar. Mr. Lewis, Deputy Agricultural Commissioner for Monterey County, R. 84, acted in a consulting or advisory capacity in the conduct of the Bardin and Anderson orchards in the years 1942 and 1943, R. 712, and has been "called in a number of times on the Pista orchard for advice", R. 712. Through the years Lewis' personal examinations of orchards and his estimates have been the basis of State and Federal crop estimates covering Monterey County, R. 86. In 1942 and 1943 he inspected practically all the orchards in Monterey County, R. 87. He inspected the Pista orchard in the latter part of September, 1942, and found that it then had "a fairly good set of fruit buds," R. 89, enough if they developed to give a good bloom in the spring of 1943, R. 89. On that occasion he observed the "white dust" in the orchard for the first time, R. 89. He next inspected the Pista orchard in the latter part of February, 1943, when the buds had "not yet quite" reached the pink bud stage, or point of spraying, R. 90, and they gave promise of a fair blossom, i.e., the trees when they bloomed

out would be white; enough bloom that if a certain percentage of them set there would be enough apricots to give a good crop, R. 92. At that time the dust was easily visible; there was a white coating of it on the trees and the ground, R. 91. He next visited the Pista and nearby orchards the first week in March, 1943, about spray time, R. 93. Except for the dust, the Pista and Anderson orchards should have set apricots as well as the Bardin and Stirling orchards, and on the basis of set and yield of the latter the Pista orchard should have had a set producing a crop of 280 tons, and there is nothing but the dust to explain the "crop" of 27 tons, R. 93-104, R. 714. Mr. Lewis used the Bardin orchard as being the closest parallel of the Pista orchard. They were closely alike in all respects in 1943, excepting that the Bardin orchard was outside the range of the dustfall. He testified, R. 101:

"Q. What set of apricots did the Pista orchard have as compared to whatever set it was that the Bardin orchard had?

A. Well, the Bardin orchard had about a 60 per cent——

Q. 60 per cent of what?

A. Of what you would call a full crop.

Q. And the Pista orchard had what per cent?

A. Between a 5 and 10 per cent.

Q. If we take that 60 per cent, whatever that phrase may mean with respect to an apricot crop, if there had been the 60 per cent set in the Pista orchard as in the Bardin orchard, what should that have produced in tons in the Pista orchard in 1943?

A. I gave you that before.

Q. Pardon me?

A. I gave you that before.

Q. I may have overlooked it. Will you give it to me now?

A. About 280 tons.

Q. You said a normal crop on that ranch would be 280 tons, is that correct?

A. On the Pista?

The Court. Let us approach it another way.

Q. You said a normal crop would be 280 tons?

A. For last year.

Q. For last year?

A. Yes, your Honor.

Q. 1943?

A. Yes.

The Court. That is what I thought.

Mr. Naus. Q. That is a normal crop under all the conditions that you observed?

A. Under the conditions, yes."

The Bardin 60% gave effect to the rainfall and its prevention of the setting of fruit on the first and second blooms and the confinement of setting to the third bloom. (See pages 9 and 10 of appellant's brief.) It is apparent that the setting of fruit occurred on the third bloom after the rain stopped. Appellant's witness Packard admitted on cross-examination, R. 684:

"Q. Wasn't there a period of bloom after the last heavy rain during the blooming period generally?

A. Yes, and that, of course, is my reason why—for saying that the third bloom set. The third bloom came after the heavy rains and continuous rains had stopped. At that time the days became clear, and when they became clear you got rid of that mucky, warm weather, or the temperature at night dropped very much below the temperatures in the previous

period, dropped down to 38, 27, in there, in the night time, and in the day time you had bright days, and the heat of the direct sunlight had more to do with the opening and the proper fertilization of apricot trees than does the temperature, itself; so during those clear days when the sun hit the blossoms directly it not only dried the pollen out so that it was available for pollination, but it also enabled the bees to go through the orchard and carry on their process in helping this pollination process.”

The first bloom in the Bardin orchard started the first week in March, R. 110, and started in the Pista orchard around five days later, R. 110. It started in the Pista orchard around March 10 and the three blooms extended through three weeks, R. 696. In other words, there was longer freedom from rainfall during blooming in the Pista orchard than in the Bardin orchard, thus favoring better setting of fruit in the absence of dust.

Nature provides blossoms in profuse abundance at the rate of 60,000 per tree for an apricot tree, R. 673, or 20 times as many blossoms as will ever mature, R. 673. Appellant's witness Packard admitted, R. 675:

“Q. Speaking of apricots, without regard to the Pista orchard, and without regard to the year 1943, but all apricot trees in California in all years, is it or not the fact that apricots tend under favorable conditions to set heavily?

A. Yes.

Q. Is it or not the fact year by year and in apricot orchards generally, that thinning is a very common practice from year to year?

A. Oh yes, yes, sir.

Q. Is it or not the fact that, speaking generally, apricot trees have to be thinned in order to produce nice fruit of a proper size?

A. Yes."

To meet Mr. Lewis' official crop estimate of 280 tons of apricots that in the absence of dust should have been produced from the Pista orchard in 1943 at the rate of 7 tons an acre for 40 full acres (after all deductions), would require setting, maturity and harvest of only 2000 to 2400 apricots harvested at 10 to 12 per pound (7 tons or 14,000 pounds per 70 trees to an acre, or 200 pounds per tree), which means that only 3% to 4% of the 60,000 blossoms need set and mature to produce 280 tons of apricots in the Pista orchard.

An effort is made by appellant to weaken the testimony of Mr. Lewis, because he did not state in so many words that the dust caused our damage. Appellant's criticism of Mr. Lewis' testimony is wholly unfair to Mr. Lewis, because the witness did make it very clear that there was nothing whatever to explain the extent of the damage to the Pista orchard in 1943 *except the dust*, and the witness would not and did not go further in his answers, because he had never had any previous experience with such dust and had made no chemical or other scientific study of it and for that reason did not go further in his answers than he did. And Mr. Twining showed himself to be an expert of many years of experience in the course of which he has studied the dust damage problems of practically every cement plant in the state, scientific studies of the chemical nature of such dust and the chemical effect of it on blossoms in orchards and how the effect comes about, R.

182. Mr. Lewis' testimony shows that nothing whatever except the dust can explain the damage, and the scientific knowledge that Mr. Lewis felt he lacked to give a scientific explanation of the reason is fully explained by the scientific knowledge and long experience of Mr. Twining who clearly explained the scientific reason. Indeed, it was not necessary that Mr. Lewis go any further; he did not need to have the qualifications of an expert in chemistry, nor was it necessary to conjoin his testimony with Twining's expert explanation of the chemical process that caused damage. In *Rynveld v. Dupuis*, 5 Cir., 39 F. 2d 399, 400 (point 5), there was a reversal because of exclusion of evidence offered through an experienced crop estimator, and the Court approvingly cited *International Agriculture Corporation v. Abercrombie*, 184 Ala. 244, 63 So. 549, 49 L.R.A. N.S. 415, where it was ruled:

“The court allowed witnesses who had qualified as expert witnesses on farming and agriculture, as to the particular land in question, to testify as to what amount of crops the defendant would have produced on the land but for the alleged fumes; the amount actually produced on the land in question with the fumes present, the value of the respective crops produced during the season in question, and the amount produced on land **similar** to that in question, during the same season, under like mode of cultivation, and with the same kind of fertilizers. We do not think there was any reversible error as to any of these rulings on the evidence. The witnesses were shown to be experts in that line of business, and familiar with the land in question, the mode of cultivation, and the amount and kind of fertilizers used; the season had passed when they testified; they knew what the land actually produced, with the fumes, and what

similar lands, under like conditions, had produced without the deleterious effect of the fumes; and they knew what the prices of the various products were in the market. In fact, the mode followed by the trial court would be the **only** mode which would be practicable to ascertain or to prove the amount of the damages (if any there were) in consequence of the fumes complained of."

The judgment should be affirmed.

Dated, San Francisco, California,
January 28, 1946.

Respectfully submitted,

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No. 11,019

IN THE
United States Circuit Court of Appeals
For the Ninth Circuit

THE PERMANENTE METALS CORPORATION
(a corporation),

Appellant,

vs.

B. PISTA and MARIE PISTA,

Appellees.

APPELLANT'S REPLY BRIEF.

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THE PERMANENTE METALS CORPORATION
(a corporation),

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B. PISTA and MARIE PISTA,

Appellees.

APPELLANT'S REPLY BRIEF.

I.

REPLY TO APPELLEES' STATEMENT OF THE CASE.

Appellees cite (pp. 18 and 19) thirteen cases dealing with dust discharges from industrial operations. The rule to be deduced from these decisions is— that injunctions will be granted in cases of extreme personal discomfort and also where there has been a “perceptible injury” to the property. No one resided at the Pista orchard, and therefore there is no issue of personal discomfort. An injunction was denied by the trial court. Regardless of abstract rights based on a technical invasion of property rights, the courts have consistently held that in an action for damages the complaining party has the burden of proving by com-

petent evidence “a perceptible injury to the property”. Therefore the sole issue is—whether there is any such competent evidence.

II.

REPLY TO APPELLEES' ANSWER IN RE QUESTIONS 1, 2 AND 3.

Appellees maintain that even though objections to the admission of evidence were erroneously overruled, that, nevertheless (pp. 5 and 6), such error becomes moot, and will be disregarded in non-jury cases, no matter how much such improper evidence may have influenced the court's mind, or how much reliance may be placed upon it as supporting the findings of the trial court, provided that there is other competent evidence in the record supporting the findings.

They cite *Holzer v. Read*, 216 Cal. 119, and 5 C. J. S. 136-7, but a reading of these authorities discloses that they do not support the rule contended by the appellees. The true rule is—that erroneous rulings admitting evidence require a reversal when the admitted evidence is *prejudicial* to the appellant, even though there is other competent evidence. See 5 C. J. S. 931 et seq. and 935 et seq. The same rule is stated in 2 Cal. Jur. at page 10, et seq. Whether the testimony is prejudicial depends upon a number of considerations, but it is held if the evidence elicited could have influenced the decision of the case it is prejudicial. (5 C. J. S. 936.) Only four witnesses were produced

by the appellees, who attempted to testify as to the cause of the crop shortage and the extent thereof. One of the four, Mr. Lewis, testified in favor of the appellant. Objections were voiced to the qualifications of one of the other witnesses, and an objection was also voiced to the hypothetical question asked another witness, which objections were overruled. The testimony of these witnesses unquestionably influenced the decision of the court, as evidenced by the fact that respondents rely on it on this appeal, and its admission was therefore "prejudicial" to appellant because their testimony is the only testimony upon which the trial court could have relied.

Appellant has urged that there was no competent evidence by competent witnesses sufficient to prove that appellees suffered any damage whatsoever, and also that various objections to the admission of testimony should have been sustained.

Appellees' admissions clarify the issues. Appellant said in its opening brief:

"It was recognized by the court in allocating 40% of the crop shortage to the weather, and it is indisputable, that cloudy, rainy weather was a material element entering into the *causation* of any crop shortage. * * * Since it must be conceded that the weather was at least one of the controlling causes of the short crop, any expert who attempted to give his opinion and did not take recognition of the effect of the weather would be engaging in mere surmise, guess and conjecture, and his opinion would be valueless as evidence."

These statements are not denied or questioned, and it is therefore established as an indisputable fact, that the weather played a material part in causing any crop shortage. Appellant further stated:

“Pista’s orchard did not differ from the balance of the orchards but followed the same pattern. The identical behavior of all the orchards in Monterey County in having three cycles of blossoming with the small cots dropping off on the first two cycles and with the crop setting on the third cycle, supplemented by Lewis’ testimony relative to the uniform bad weather and its effect on pollinization, supplemented by his own opinion, unerringly and indisputably point to the fact that the same cause was responsible for the identity of behavior of all of these orchards, and that this cause was unfavorable weather.”

It is not denied, and it is therefore indisputable, that all of the orchards in Monterey County followed the same pattern, with cycles of blossoming and the dropping off of the fruit, and that these cycles of blossoming and the dropping off of the fruit were caused by unfavorable weather conditions.

Furthermore, it is not denied that the testimony supporting the foregoing statements was a part of the record, prior to the time that appellees’ opinion witnesses were called to the stand.

Twining’s testimony.

Appellant contended (Appellant’s Opening Brief, p. 12):

“Not only did Mr. Twining have no knowledge of the weather or actual conditions existing at the

time of the crop failure, but in addition his entire conclusions were based upon laboratory experiments and calculations made more than a year after the crop failure, and which were mere guesses, surmises and conjectures as to what actually occurred during the pollination period in 1943."

This statement, coupled with the analysis of Twining's testimony found at pages 13 to 17 of appellant's opening brief, wherein it was pointed out that Twining's experiments and calculations were based on his gathering two sets of leaves, his measuring of the dust on these two sets, his calculations derived from such measuring, and his unsupported assumptions that the deposit of dust was constant throughout the year, and upon other assumptions, which assumptions were either contrary to the evidence or without evidentiary support, was not denied. Appellees ignore this analysis, and make no effort to rehabilitate the witness or to reply to our condemnation of the inaccuracies of Twining's assumptions, realizing that such analysis of the faults of Mr. Twining's experiments is unanswerable. However, they attempt to hide their failure to sustain their own witness and his testimony by referring at length (Appellees' Opening Brief, pp. 6-14) to the scientific data furnished by the appellant's learned experts, Dr. Duschak and Mr. Packard, as to the chemical reactions which took place in the calcining of the ore and the effect of carbonates, hydroxides and oxides on pollination, and by further referring to an analysis made by Mr. Twining at the time of the trial that the deposit on the leaves con-

tained hydroxides and oxides. This specious effort to divert attention from the lack of evidentiary value of Twining's opinion cannot serve the appellees for the simple reason—that the question asked Mr. Twining was predicated on his experiments, calculations and assumptions, and was not based on any testimony given by either Dr. Duschak or Mr. Packard. That the question was based upon Mr. Twining's own activities is beyond question.

“Q. Assuming Mr. Twining, the deposit of the dolomite material in 1943 to the extent that your examination and analyses of the 1943 samples disclosed, and assuming that those samples came from the Pista orchard of 44 acres, or something like 3000 trees or over, and assuming that in the year 1943 that orchard and those trees produced no more than 27 tons of apricots.”

(Tr. p. 169.)

The succeeding question in response to which Mr. Twining estimated the yield is likewise based on Twining's testimony.

“Q. Can you from the question I put to you indicate to me an opinion or estimate, say in the form of how many times 27 tons might have been expected if there had been no dust?”

(Tr. p. 172.)

As we stated in our opening brief, the basis of any expert's opinion must be either by personal observation or by the assumption of facts through a hypothetical question. Mr. Twining's personal observation, derived from measuring the dust on two sets of leaves,

is without evidentiary value because of unsupported assumptions. Furthermore, any question should have contained a reference to the weather and its effect on the crop. The evidence shows that Mr. Twining could not take any recognition of the effect of the weather, since on cross-examination he admitted he knew nothing about the weather conditions which prevailed, and had made no study relative to the effect of the prevailing weather conditions insofar as it affected the apricot yield. (Tr. pp. 216-221, Appellant's Opening Brief, pp. 19-22.)

Appellees disregard all of these foregoing vital considerations, and take the bold position that an expert can, a year after a crop failure, perform experiments by weighing the amount of dust on two sets of leaves, one evergreen and the other deciduous, then calculate the amount of dust which had been deposited, assume that it was a constant deposit day and night, and thereby arrive at the amount deposited during the pollination period, and that the interrogator can also withdraw from the consideration of the expert one of the admitted and indisputable causes of the crop failure, and then through the medium of a question, secure his opinion, based on these limited and erroneous facts. Appellees are faced with the dilemma of having to rely on the opinion of an expert whose investigation was so inadequate that in arriving at his factual conclusions, he had to predicate these factual conclusions on his own assumptions, which assumptions were in all respects guesses and many times contrary to the evidence, and are also

faced with the dilemma of supporting the opinion of a witness who was ignorant of and gave no consideration to undisputed essential facts pertinent to the causes of the crop failure. They meet this dilemma by contending that they have the right to adopt any limitation of facts which they deem advisable, even though the limited facts consist of the witness' own guesses and conjectures, and can thereby eliminate from his consideration essential undisputed elements of causation, which limited opinion will support a judgment for damages and that an appellate court is without jurisdiction or power to investigate the propriety of the question, and determine whether or not it is a proper question, or whether the answer constitutes competent evidence.

In appellant's opening brief (pp. 29-32) are cited authorities which hold that a witness, no matter how skilled, will not be permitted to guess or state a judgment based on conjecture; that is, to answer a question in which the factual foundation is nebulous, and that the hypothesis must be of such a character as to permit reasonably accurate conclusions as distinguished from mere guess and conjecture, and that undisputed facts, when material, must always be assumed, that is, drawn to the attention of the witness, even though some of such facts are detrimental to the proponent's case. Appellees (p. 20) make no reference to the authorities cited by the appellant, other than to say that they involve affirmances rather than reversals. This is not correct; but even so, we know of

no rule to the effect that the law stated in affirmances is not the true and correct rule of law.

We do not dispute the general rule relative to hypothetical questions, namely, that the question does not have to state all of the facts, and that the proponent may assume such facts as are in accordance with his theory of the case, and that where there is a conflict of evidence the proponent has the right to assume the evidence which is most favorable to his side of the case. On the other hand, to this general rule there is a well-established exception, namely, that any hypothesis must not be so deleted of pertinent material facts as to render the question unfair or misleading. Under this exception it is universally held that the hypothesis, over proper objection, cannot omit undisputed material facts, or as is stated in *Lawrence v. Butler*, 79 Cal. App. 436, "The substance of the question asked" cannot be "foreign to the situation described by the undisputed evidence in the case". In the present case, the omission of all reference to the weather and its effect, which was an element of paramount importance in any hypothesis, resulted in describing a situation foreign to the undisputed evidence. Not only do the authorities cited in appellant's opening brief uphold this exception in its completeness, but even the authorities cited by the appellees also do. In *United States v. Aspinwall*, 96 Fed. (2d) 867, the government insisted that conflicting evidence should have been considered by the expert. The court held that this contention was not correct, and the conflicting evidence should not be included in the hypothesis

because its inclusion involved the weighing of evidence, and the judging of the credibility of witnesses, and therefore invaded the problems of the jury. Compare this authority with *Western Assur. Co. of Toronto v. J. H. Mohlman Co.*, 83 Fed. 811, and *Atlantic Life Ins. Co. v. Vaughn*, 71 Fed. (2d) 394, cited in our opening brief, where the exception which we have referred to is noted. Appellees likewise quote from the decision in *Treadwell v. Nickel*, 194 Cal. 243. The exception to which we referred is noted because the court states, in discussing the limitation of facts, that any question is "subject to the limitation that the question shall not be unfair or misleading". The subsequent citations of the *Treadwell* case clearly recognize this exception to the general rule. In *Johnson v. Clark*, 98 Cal. App. 358, the court held where the question assumes facts directly in conflict with the undisputed facts in the case, "it is wholly valueless as a hypothetical question and an answer based upon such false assumption wholly fails to meet the demands of competent evidence", citing the *Treadwell* case and also the *Estate of Gould*, 188 Cal. 353, which likewise holds that a hypothetical question is valueless where it assumes facts in conflict with other facts stated in the question. In *People v. Castillo*, 5 Cal. App. (2d) 194 at 198, also citing the *Treadwell* case, the court, in referring to a hypothetical question, states that the question was faulty in that "it omitted material parts of the evidence going to the circumstances surrounding the triple rape. An answer based upon such a question wholly fails to meet the de-

mands of competent evidence". In *People v. Wilson*, 25 Cal. (2d) 341, the court, at pages 348 to 349, discusses hypothetical questions, and says that the trial court should prevent the use of unfair or misleading hypothetical questions, permitting only questions that sufficiently specify the assumptions on which they are based and contain only such assumptions as do not contradict the weight of the evidence in the case. Undoubtedly in the present case the elimination of the weather element constituted a contradiction of the weight of the evidence in the case, just as much as would an assumption in direct conflict with the actual facts. It will thus be observed—that the very authorities upon which appellees rely recognize in unmistakable terms that the hypothesis cannot delete essential undisputed facts. Both the appellees and the trial court had ample warning of the impropriety of the type of question propounded to Twining because a timely objection was made that the testimony which related to the effect of the cold and foggy weather and the three cycles of blossoming was not referred to in the hypothesis.

Appellees contend, however, that due to the fact that appellant had the right of cross-examination and exercised it, that the error in the hypothetical question is cured, because if the appellant desired the opinion of the expert upon the facts as he asserts them to be, he could obtain this opinion on cross-examination. This rule is inapplicable to the present set of facts for the reason that in the cross-examination (Appellant's Brief, pp. 20-22) Mr. Twining un-

equivocably testified that he had never examined the weather reports of Monterey County or the Natividad District, and did not know what the weather conditions were in the Natividad District in 1943, and also that he had never had occasion to study the cause of the short crop throughout California in 1943, and that he had made no investigation or study relative to the effect of bad weather or climatic conditions which occurred in 1943 so far as it affected the apricot crop. Having disavowed all knowledge of prevailing weather conditions and having affirmatively stated that he had made no study of the effect of weather conditions on the crop, any hypothetical question asked on cross-examination which referred to the weather conditions would have been totally useless, because where an expert affirmatively states that he has no knowledge sufficient to express an opinion, there is no reason for asking him to guess or conjecture. Appellant respectfully submits (1) that Twin-ing's testimony, based as it was on false assumptions, and ignoring material elements of the causation of the crop loss, is without evidentiary value, and (2) that the objection to calling attention to the inadequacy of the hypothesis was a sound objection, and the trial court erred in overruling it and permitting the witness to testify.

Pista's testimony.

Appellant argued that both Pista and Anderson were so devoid of knowledge, acquired either by study or practical experience, that they did not meet the requirements of the Code, which provides that a wit-

ness may only "express his opinion on a question of science, art or trade where he is skilled therein." (CCP 1870, Subd. 9.) Appellant pointed out that the effect of magnesium and calcium dust on pollination was a highly technical and scientific subject, and that neither Pista nor Anderson pretended to have the slightest knowledge on this subject.

In reply, appellees argue (pp. 23-29) (a) that the court disregarded Pista's testimony and therefore its admission is harmless; (b) that appellant waived any error in its admission; and (c) that Pista's qualifications were solely a question for the trial court, and that this court cannot reinvestigate the subject of his qualification, but is bound by the trial court's ruling. We will discuss their reply in reverse order.

C.

In its opening brief (pp. 33-34), appellant quoted from *Johnson v. Western Air Express Corp.*, 45 Cal. App. (2d) 614, claiming that in accordance with the rule therein—that there was no substantial evidence to support the ruling of the trial court that Pista was qualified, and that therefore permitting him to express an opinion was an abuse of discretion on the part of the trial court and reversible error. Appellees refer to four decisions and texts, which do not deny this rule but affirm it. The subject is fully reviewed in *Mirch v. Balzinger*, 53 Cal. App. (2d) 103 (quoted by appellees at page 25 of their brief), where the court, after stating the rule relative to the necessity of qualification at considerable length, reviewed the qualifications

of the two doctors and held that the evidence of their education and experience amply qualified them and concluded that there was therefore no abuse of discretion. In *St. Louis & S. F. Ry. Co. v. Bradley*, 54 Fed. 630, the witness lacked scientific knowledge but had an abundance of practical knowledge. The objection to the witness' qualification was that he lacked scientific knowledge. The court held that practical knowledge was sufficient, but even so, when discussing this subject, the Circuit Court of Appeals noted that where the witness lacks qualification as a matter of law, that then his lack of qualification is the subject of reversal. *Oil Co. v. Gilson*, 63 Penn. St. 146 (Appellees' Brf. p. 29), recognizes that "undoubtedly it must appear that the witness enjoyed some means of special knowledge or experience."

Since the authorities cited by both litigants are in accord, and hold that in order for an opinion to be admissible that the witness must qualify and that the proponent must produce evidence as to his qualifications in order to be permitted to interrogate him, then the question is—was there any such evidence produced in the present case? Appellees argue that because Pista was an orchardist (Appellees' Brf. pp. 26-7), he was qualified to give his opinion on the effect of magnesium and calcium dust on the pollination of fruit. Actually, he was not an "expert manager" of a commercially producing apricot orchard, but as stated by appellant (p. 24), he was an ignorant, illiterate orchardist who could not write and did not even understand the meaning of common everyday words. There

is not a suggestion in the record that either by reason of study or practical experience he had any acquaintanceship with the subject of the effect of calcined dolomite on fertilization of fruit. We submit that under these circumstances that there was an actual want of evidence to support the implied finding of the trial court that he was qualified, and the court's permitting him to testify was an abuse of discretion, and therefore reversible error.

B.

The claim that appellant waived any error by subsequently introducing the same evidence is without legal support. Appellees rely on appellant's interrogation of two apricot orchardists, Wilmoth and Eiper, and also on its permitting Anderson to testify without objection. We will subsequently discuss Anderson's testimony, but so far as Wilmoth and Eiper are concerned, they were interrogated, and testified to, opinions and conclusions that were clearly within the realm of their knowledge, which knowledge was gained by practical experience, namely, the effect of cold, cloudy, rainy weather on the pollination of fruit. Both were orchardists of long experience, and the effect of weather on blossoming and pollination is a recurring yearly experience. They were not interrogated and did not testify as to the effect of dolomite dust on pollination, but testified to something entirely different, namely, the effect of inclement weather on pollination. Appellees rely on 5 *C. J. S.* 193. A reading of this text shows that it is quite ambiguous, and

reference to supporting authorities is necessary. In *George v. Hall*, 262 S. W. 174, the plaintiff testified that the trustees of a business trust had refused to endorse the trust note. The Court held that the plaintiff could not object when the trustees likewise testified that they had refused to endorse the note. In *Watkins v. Meyer*, 255 S. W. 1002, the court held the admission of a certain letter was in error, but would not reverse the case because of similar evidence in the record. In *Willis v. City of New York*, 132 S. E. 286, the court held that the erroneous admission of evidence on direct examination is waived where on cross-examination the witness was asked substantially the same questions and gave substantially the same answers. This is contrary to the law in California because the rule is that an objection voiced on direct examination is not waived by cross-examination on the same subject. (10 *Cal. Jur.* p. 825.) However, Pista was not cross-examined on this subject. The record will show he was so ignorant that the court practically withdrew the witness, his counsel stating he would have difficulty pursuing "with this witness, the difference between budding and blossoming." (Tr. p. 63.)

The rule deducible from various decisions is—that where identical evidence is produced by the objecting party, voluntarily, but not by reason of cross-examination, that it is a waiver of the original objection. As heretofore pointed out, the testimony of Wilmoth and Eiper dealt with an entirely different subject than the subject of Pista's.

A.

Appellees argue that the conclusion of the court that the dust occasioned the loss of 133 tons is based on evidence wholly independent of Pista's testimony, and that therefore the trial court disregarded the answer of Mr. Pista. This is a remarkable admission, and strongly supports appellant's contention that the court indulged in conjecture and surmise in determining the amount of loss. Only two witnesses testified on this subject, namely, Pista, who testified that if it had not been for the dust he would have harvested from 200 to 250 tons, and Twining, who testified that the crop would have been somewhere between 184 and 236 tons, with a loss of 157 to 209 tons. If the court disregarded the answer of Mr. Pista when it placed the loss of crop at 133 tons, then the court likewise must have disregarded the testimony of Mr. Twining, because neither of these two estimates bears any semblance to the tonnage loss found by the court. Therefore, there is no testimony which supports the court's guess and conjecture by which the court arrived at 133 tons as the tonnage loss. Appellees further say (p. 24) that the court's finding of tonnage loss is based on evidence wholly independent of Pista's testimony and refer to the bottom paragraph of page 3 of appellant's brief. Page 3 of appellant's brief sets forth the numerical calculations by which the court arrived at the tonnage loss, but it does not refer to any evidence whatsoever justifying such conclusion. On the contrary, throughout the appellant's appeal, the contention has been made that there is no evidence

to support the conclusion of the court as to the amount of loss. Since appellees admit that Pista's testimony does not support the court's conclusion, and since, by the same token, Twining's testimony fails to support the court, then unless Lewis' testimony lends support, there is no evidence supporting the court's conclusion.

Anderson's testimony.

Appellant, after reviewing Anderson's testimony, stated (Appellant's Brf. p. 28) that "This type of testimony does not reach the dignity of evidence nor even naked opinion based on speculation and conjecture." Appellees' sole reply is (Appellees' Brf. p. 24) that no objection was made to Anderson's testimony. The failure to make an objection does not breathe probative substance into conjecture. There was no reason for objecting to Anderson's testimony for the reason that opinions of laymen on technical subjects are not considered as substantial evidence. See 32 *C. J. S.* 379 and *Aetna L. Ins. Co. v. Kelly*, 70 Fed. (2d) 589. Anderson did not attempt to testify as to conditions of the Pista orchard as to the amount of dust deposited there, or the character of the dust so far as to whether it was carbonates, oxides or hydroxides. He could not testify to such a subject and could not even hazard an opinion, because he affirmatively stated that he was ignorant of all crop conditions in Monterey County, including the Pista orchard. (Appellees' Opening Brf. p. 27.) Every expert agreed (that is, Twining, Duschak and Packard) that the amount of deposit, coupled with its chemical characteristics, was a determinative factor in determining

whether or not the dust caused any injury. Anderson's lack of knowledge of conditions at the Pista orchard and of this highly scientific and technical subject renders any testimony which he might give valueless as evidence, and there was therefore no reason to object.

Lewis' testimony.

Appellees argue that the evidentiary support of the award is to be found by comparing the crop of the Pista orchard in the dust zone, with the crop of Bardin's orchard outside the dust zone, which was otherwise subject to the same natural causes of the elements (p. 37). What evidentiary justification the court had in making such a comparison does not appear, because as pointed out in our opening brief, Mr. Lewis, the deputy agricultural commissioner of Monterey County, who had the Bardin orchard under his direct supervision and who had visited the Pista orchard on numerous occasions, on three different occasions refused, in reply to direct questions, to testify that in his opinion the dust injured the Anderson and Pista apricots. This testimony is summarized at page 11 of appellant's opening brief, where Mr. Lewis, in reply to a direct question, stated: "I am not going to state that the dust did that or did not." Appellees wail at page 41 that we are wholly unfair to Mr. Lewis. How an appellant can be unfair to a witness when he directly quotes the witness' testimony does not appear. The difficulty facing the appellees is—that Mr. Lewis, their own witness, would not testify to facts which he did not believe were true, which has forced the appel-

lees to contend that Mr. Lewis testified to something far different from that which he actually did testify to; in other words, they have to place upon his testimony an interpretation contrary to the actual testimony. At pages 37 to 41 (Appellees' Brf.) is found what purports to be a summary of Lewis' testimony. Appellees state that except for the dust the Pista and Anderson orchards should have set apricots as well as the Bardin and Sterling orchards, and the Pista orchard should have had a set producing a crop of 280 tons and that there is nothing but the dust to explain the crop of 27 tons. They refer to R. pp. 93-104 and R. p. 714. Lewis' testimony in no way supports such conclusions. Mr. Lewis visited the Pista orchard in March before the blossoming occurred (R. p. 93) at a time when it was ready for spraying. (R. p. 93.) This, of course, was prior to the weather killing the pollination. He stated (R. 95) that at the time, he thought it had a chance of producing 280 tons. This was before the weather intervened and something did occur other than the dust which affected the crop, namely, the weather. He stated that he was there nearly every week during March up to the first of April and then again around the 20th of April (R. p. 29); that the blossoming occurred over a period of about 18 days, and that there were three cycles of blossoming, and that the blossoming was sufficient to give a crop, but that the cots, instead of growing from the blossom, would drop off, and that the blossom was not developing into fertilized or pollinized cots. (R. p. 97.) Identically the same phenomena took place in all the orchards in Monterey County and was due to the

weather. He was then asked if he could estimate or determine what, if anything, was preventing the apricot blossoms from setting and what was the cause of the failure of the apricots to become fertilized and his answer was "The area had me puzzled." It is quite apparent that he was not referring to the Pista orchard alone but to the entire Natividad area, because he stated that the whole county had an average of 20%, most of it 10% or 15%, and why the Anderson and Pista orchards did not set he could not determine whether it was weather conditions or whether it was dust (97). He stated (98) that he had read various treatises on the effect of magnesium and other dusts on the pollinization of apricots. He further testified that during the spring of 1943 they had rainfall or foggy weather throughout the whole period. It will thus be observed from Lewis' testimony that there was something besides the dust to explain the crop of 27 tons had by Pista, namely, the weather. This can be best demonstrated by showing the yield of the various orchards in Monterey County, indicating those which were subject to dust and those which were not.

Dusted: Pista, 10%; Anderson, 8-10%.

Slightly Dusted: Bob Sterling, 30% (Lewis, Tr. p. 109); Hill, 10% (Lewis, Tr. p. 126); Wilmoth, 10% (Wilmoth, Tr. p. 383).

Not Subject to Dust: Bardin, 60% (Lewis, Tr. p. 101); orchards in the Prunedale District from a complete failure to 10 to 15% (Lewis, Tr. p. 108); California Orchard Company near King City, according

to Lewis 15 to 20% (Lewis, Tr. p. 108), according to Packard 12% (Tr. p. 585); California Orchard Company near King City, approximately 1½ miles from larger orchard, 40% (Packard, Tr. p. 585); Lester Sterling, 40% (Lewis, Tr. p. 54); Aromas District, 10% (Tr. p. 400); the County as a whole had a yield of 20% or 15 to 20%. (Lewis, Tr. p. 97 and p. 107.)

Without regard to dust, there was a great variation in yield; orchards side by side varied considerably; the Bardin orchard had by far the heaviest crop in the county, yet orchards far removed from the dust area had crops which were total failures, and all the testimony evidences that these failures were due solely to the weather conditions. There is no rational or logical relationship between the diversity of yield of the various orchards and the presence or non-presence of dust, but the undisputed fact appears that weather conditions were the true cause of the entire crop failure and of the variation in yield in Monterey County, and that the dust had nothing whatsoever to do with it. This is borne out by the further fact that in 1944 at a time when dust was still being deposited on the Pista orchard, but at a greatly reduced volume, that Pista had an enormous crop, in fact, the largest crop he had had in the whole history of his orchard. and so great it required extensive thinning after the fertilization of the fruit. (Tr. p. 79.) Appellees try to explain Lewis' refusal to give an opinion (p. 41) by saying—that he refused because he had never had any previous experience with such dust and had made no chemical or other scientific experiments, and that

was why he did not go further in his answer than he did. This is not a true statement. There is nothing in Lewis' testimony to this effect. He did not assign any reason for his refusal to answer a direct question, but simply stated that he would not say that the dust did or did not do that. (Tr. pp. 111, 112, 116.) Appellees cannot twist the statements of Mr. Lewis into meaning something foreign to his very clear exposition of the crop failure and the causes therefor, nor can they convert his definite refusal to voice an opinion into an opinion supporting their side of the case, or supporting the judgment of the trial court. There simply is no evidence that if it had not been for the dust that Pista would have had the same yield as Bardin. Any inference by comparison of yield would apply with greater force to the Wilmoth orchard with a 10% yield, which was adjacent to Pista's and free from dust, than would apply to the Bardin orchard. The same analogy would apply to every orchard in Monterey County. No evidence exists as to how or why the Bardin orchard should be set up as the measuring medium of production, by which loss of yield due to dust is to be measured. There is no more rational connection between the Pista yield and the Bardin yield than between the Pista yield and the yield of any other orchard in Monterey County. In fact, there is much less. Bardin had a 60% yield, far beyond the balance of the county; Sterling 40% and the balance of the orchards producing from 20% or less to a total loss. The Bardin yield was more than three times the average yield in the county. What

evidence is there, what reason exists, to suppose that Pista would have had the same yield as Bardin, instead of Wilmoth or someone else, or greater than the average yield in the county, if it had not been for the dust, particularly in the light of Lewis' statement "I am not going to state that the dust did that or did not."

III.

QUESTIONS 4 AND 5.

As stated by the appellees, Questions 4 and 5 are closely related and therefore in this reply we will deal with them as one. We argued (Question 4) that where the injury results from two possible causes, and when the precise cause is *left to conjecture* then there is no liability and (Question 5) that the court cannot, where there is a total lack of evidence, through the medium of conjecture arbitrarily apportion the damages. Appellees have misconstrued our position, stating (p. 30) that appellant contends that since the damage in 1943 is only explainable on the basis of natural causes that this fact renders the evidence relative to any injury caused by dust mere surmise and conjecture. Appellant makes no such contention, but on the contrary, maintains that the sole evidence relative to the extent of damage caused by the dust is the opinion of the appellees' expert witnesses, and that this evidence in and of itself is conjectural; also, and as a corollary, that the evidence leaves it conjectural whether or not the injury was caused by the weather alone or was caused

by the weather in conjunction with the dust, and finally, even assuming that there is some evidence that the injury was the result of these two causes, that nevertheless the extent of the damage attributable to each of the two causes is a matter of conjecture for there is no evidence showing the extent of the damage caused by each of these two causes.

Appellees cite a number of authorities, but in none of them is the sufficiency and type or character of evidence necessary to prove the extent of damage discussed. Two of the authorities cited and quoted from involve issues of law foreign to our problem, and therefore the language used in those decisions is without relevancy.

Miller v. Union Pacific R. Co., 290 U. S. 227 (Appellees' Brf. p. 33) and *Husky Refining Co. v. Barnes*, 119 Fed. (2d) 715 (Appellees' Brf. p. 35) involve case of concurrent negligent acts. In *California Orange Co. v. Riverside Portland Cement Co.*, 50 Cal. App. 522, relied upon by the appellees, where leaves on the plaintiff's orange orchard were encrusted with dust from two separate cement mills, the court said the California Portland Cement Co. and the defendant were not joint tort-feasors. "Their respective torts * * * were several when committed, and did not become joint merely because of a co-mingling of the dust from the respective plants and a union of the consequences proceeding from the several and independent tortious acts." Since this is not a case of joint tort-feasors but arising from several distinct and

independent causes, the concurrent negligent cases are not pertinent.

Learned v. Castle, 78 Cal. 454 (Appellees' Brf. p. 30), was a case where the defendant erected a canal, obstructed sloughs, and removed embankments. The water resulting from these interferences, co-mingled with flood waters, flowed upon the plaintiff's land, causing substantial damage. The lower court allowed nominal damages of \$1.00. The upper court held that the plaintiff was entitled to compensatory damages rather than nominal damages, and that the trial court should have determined what portion of the damage to the plaintiff's land was attributable to the defendant's wrongdoing and what portion was attributable to natural causes. The court does not attempt to lay down any formula by which this could be done, and the decision contains no discussion whatsoever as to the type, extent or character of the evidence which might be required in order for the court to properly make such a division of damages. It does not hold and does not purport to hold that the wrong-doer was liable for the entire loss suffered by the complaining party, but simply that he is responsible for his proportionate share.

Hanlon Drydock & Shipbuilding Co. v. Southern Pacific Co., 92 Cal. App. 230, does not assist the plaintiff. In that case the jury, apparently in the belief that the railroad company was not negligent in blocking the entrance to a fire, brought in a verdict in favor of the railroad company. The trial court granted a new trial and the railroad company appealed. The

upper court held that the unexplained blocking of a street crossing by the railroad company constituted a prima facie case of negligence. The railroad company, in an effort to sustain the jury verdict and to reverse the granting of a new trial, argued that the damage was speculative, contingent and remote, but the court pointed out that the damages were easily ascertainable. Again the type and character of the evidence was not an issue and the decision is silent on this subject.

Katenkamp v. Union Realty Co., 36 Cal. App. (2d) 602, is dissimilar from the two previous cases in that there was ample evidence given by qualified experts, upon which the court could base a decision approximating damages, and falls within that category of cases where the negligence is clearly established, the court stating: "In the case at bar, there is positive evidence, as heretofore pointed out, that the groins erected by the appellant caused 75% of the respondent's damage and there is some evidence to the effect that that the groins were sufficient to cause all the damage." Because of the fact that the evidence was ample, there is no discussion of the kind or type of evidence which was required.

In *Zinn v. Ex-Cell-O Corp.*, 24 Cal. (2d) 290, the principal in an agency contract, after securing orders through the activities of one of a group of agents, bought the rights of the remaining agents for a small sum, concealing from them the existence of orders already secured. The action was for fraud and the court discusses the question of the admissibility of evidence showing possible future profits as throwing

light on the present value of the agents' rights. The court used the language quoted in appellees' brief, but the dissimilarity of facts and issues demonstrate that the language used is inapplicable to the present situation because the court was discussing the evidence necessary to establish future profits, and not discussing the evidence required to establish injury caused by an invasion of property rights.

It will thus be observed that none of the foregoing authorities are relevant or throw any light upon the issues presented under heading Questions 4 and 5, and therefore should be disregarded. The true rule is easily ascertainable. In the *Zinn* case the court cites as authority 15 Am. Jur. p. 412, which article deals with damages. At page 413 the text reads:

“The damages recovered in any case must be shown with reasonable certainty both as to their nature and in respect of the cause from which they proceed. No recovery can be had where it is uncertain whether the plaintiff suffered any damages unless it is established with reasonable certainty that the damages sought resulted from the act complained of. Hence, no recovery can be had where resort must be had to speculation or conjecture for the purpose of determining whether the damages resulted from the act of which complaint is made or from some other cause, or where it is impossible to say what, if any, portion of the damages resulted from the fault of the defendant and what portion from the fault of the plaintiff himself.”

Also at page 415 the text writer continues:

“The rule that uncertainty as to the amount of the damage will not prevent a recovery does not mean that there need be no proof of the amount of the damage. To authorize a recovery of more than nominal damages, facts must exist and be shown by the evidence which afford a basis for measuring the plaintiff’s loss with reasonable certainty. The damages must be susceptible of ascertainment in some manner other than by mere speculation, conjecture, or surmise and by reference to some definite standard such as market value, established experience, or direct inference from known circumstances.”

This same rule is referred to in the decision of the Supreme Court in *Story Parchment and Paper Co. v. Patterson*, 282 U. S. 555, 75 L. Ed. 554. (Appellees’ Brf. pp. 34-5.) The court there said at page 548:

“It is true that there was uncertainty as to the extent of the damage, but there was none as to the fact of damage; and there is a clear distinction between the measure of proof necessary to establish the fact that petitioner had sustained some damage, and the measure of proof necessary to enable the jury to fix the amount. The rule which precludes the recovery of uncertain damages applies to such as are not the certain result of the wrong, not to those damages which are definitely attributable to the wrong and only uncertain in respect of their amount.”

In *White v. Spreckels*, 10 Cal. App. 287, referred to in our opening brief at page 36, the California court, in discussing the cause of the injury, said “The cause

of the explosion is a matter of conjecture from the evidence in this record'' and the court held that under such circumstances, where the cause is not established by pertinent testimony, and where the loss may be attributable to one of two causes, that the plaintiff must fail if the evidence does not show that the injury was the result of the acts of defendant, and this proof cannot be established by conjecture. Appellant maintains that the evidence in the present case leaves the cause of the crop loss a matter of conjecture as to whether it was caused by the weather or by the dust, but the lack of proof goes even deeper in that the evidence relied upon to prove that the loss was occasioned by dust is of itself conjecture.

Appellant further maintains that the division of the loss by the court was an arbitrary act, based not upon any fact, or inference from any fact, but solely on the conjecture of the court. Appellees rely on the case of *California Orange Co. v. Riverside Portland Cement Co.*, 50 Cal. App. 522 (supra), but that case is not in point for the reason that there the California court directly holds that no such issue was presented. Two cement mills discharged cement dust onto the plaintiff's orange orchard to such an extent that the leaves became encrusted, preventing photosynthesis thereby starving the trees. The defendant was not complaining that the lower court charged it with more than its proportion of the total damage, but was contending that the evidence failed to show that there was any material discharge from the defendant cement mill precipitated upon the land of the plaintiff. That court, in defining the issue, said:

“Appellant does not contend that the lower court charged it with more than its proportion of the total damages caused by the plants of the two companies. That point is not raised in the briefs. Appellant’s contention is stated in its opening brief as follows: ‘The evidence is insufficient to show that any material discharge from the cement mill of appellant, was precipitated upon the lands of the plaintiff in any *appreciable* amount.’ ”

Subsequently, in its decision, the court reviewed at considerable length the testimony of the various witnesses and held that there was ample evidence to prove that there was a material deposit precipitated upon the lands of the plaintiff by the defendant cement mill. In the later case of *Slater v. Pan-American Oil Co.*, 212 Cal. 648 (referred to in our opening brief at pages 39-40), for the first time the question was raised in California as to whether or not there was any evidence sufficient to prove the proportion of the total damages attributable to the particular defendant. The *California Orange Co.* case was relied on by the plaintiff, but in the *Slater* case, the court pointed out (p. 653) that in the *Orange Co.* case “This point was not raised”. The Supreme Court of the State of California then proceeded to discuss the type and character of the evidence necessary to prove a proportional liability of one tort-feasor where the injury has been caused by the independent act of a number of tort-feasors and says:

“It is only fair, in actions of this character, that the plaintiff be required to produce some evidence from which the defendant’s proportionate liability might reasonably be deduced.”

The court's further comment is peculiarly applicable to the present case when it said:

“Could it be said that a court, without any knowledge as to the contribution by the defendant, and upon the statement alone that there was some contribution, could apportion the damages as between the several wrongdoers? We think not.”

We have already pointed out that there is no evidence which in any way can support the finding of the court. Even accepting the evidence of Mr. Twining and Mr. Pista as competent (which it is not)it does not substantiate or support the court's conclusion, because their testimony as to the loss is far different from the conjecture indulged in by the court; in fact, as we have heretofore explained, appellees admit in discussing Pista's testimony that the court could not have relied on his testimony in the apportioning of damages. It therefore could not have relied upon Twining's. The result is that the division of loss between weather and dust is not supported by any evidence and is merely the conjecture of the court.

Appellees also rely on *International Agricultural Corp. v. Abercrombie*, 63 S. 549, 49 L.R.A. (N.S.) 415, which deals with the question of the character of proof required to establish whether there has been an injury to growing crops, and not with whether there was evidence sufficient to establish the proportion of loss attributable to diverse causes. Experts, properly qualified, drew an inference from the lack of injury to adjacent crops that the fumes complained of were the cause of plaintiff's injury. Undoubtedly a prop-

erly qualified expert with complete knowledge of all circumstances can render his opinion as to the cause of a crop shortage, and where facts are developed which form a sound basis, the expert can give his opinion as to the apportionment of loss. It was this type of evidence which was discussed by the Alabama court. In that case, there was only one possible cause for the crop shortage, and it was not a case where an entire county has been visited with a blight of production on account of weather, and where the experts took cognizance of all of the facts and did not ignore an essential fact.

IV.

CONCLUSION.

Appellant respectfully submits that none of the plaintiff's witnesses were qualified to express an opinion other than Mr. Lewis, and that therefore there is no evidence that the dust caused any injury whatsoever, and likewise there is no evidence as to the proportion attributable to either weather or dust. It is further submitted that the court's conclusion is conjecture and surmise and not a legal apportionment of damages.

Dated, San Francisco,
March 1, 1946.

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No. 11023

United States
Circuit Court of Appeals
For the Ninth Circuit.

CHESTER BOWLES, Administrator, Office of
Price Administration,

Appellant,

vs.

PATRICK LUMBER COMPANY, a Corporation,
Appellee.

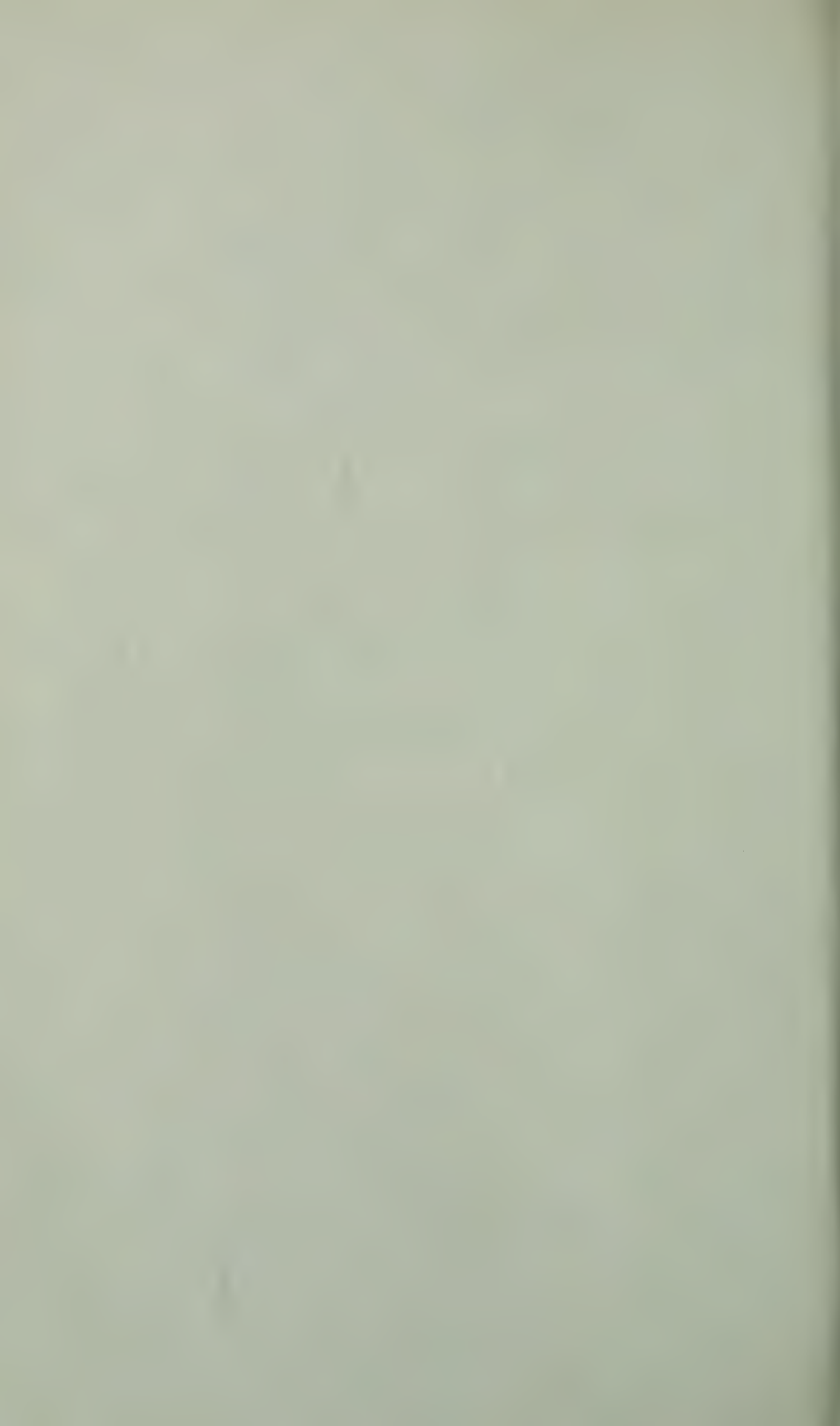
Transcript of Record

Upon Appeal from the District Court of the United States
for the District of Oregon

FILED

JUN 12 1945

PAUL P. O'BRIEN,
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1016 Spalding Building, Portland, Oregon,

for Appellee.

United States District Court for the District
of Oregon

Civil No. 2559

CHESTER BOWLES, Administrator, Office of
Price Administration,

Plaintiff,

vs.

PATRICK LUMBER COMPANY, a corporation,
Defendant.

COMPLAINT

Comes Now the plaintiff above named and alleges :

I.

That plaintiff, as Administrator, Office of Price Administration, brings this action for treble damages on behalf of the United States, pursuant to the provisions of Section 205(e) of the Emergency Price Control Act of 1942 (Pub. L. No. 421, 77 Cong., 2d Sess., 56 Stat. 23), enacted January 30, 1942, as amended, hereinafter called "the Act."

II.

That defendant herein is a corporation existing under and by virtue of the laws of the State of Oregon.

III.

That jurisdiction of this action is conferred upon this Court by Section 205(c) of the Act and by said Section 205(e) of the Act.

IV.

That at all times hereinafter mentioned, there has been in effect, pursuant to the Act, Revised Maximum Price Regulation 26, as amended (7 Fed. Reg. 7871), establishing the maximum price for each of various grades of Douglas Fir and other West Coast lumber.

V.

That from and including August 29, 1943, more than six months after the date of approval and enactment of the Act, to and including October 8, 1943, the defendant, a wholesale lumber dealer, located at Portland, Oregon, sold [1*] and delivered direct mill shipments of Douglas Fir lumber, subject to Revised Maximum Price Regulation 26, as amended, to John Schroeder Lumber Co. certain carloads of lumber hereinafter described. None of said purchases was made for use or consumption other than in the course of trade or business, and defendant demanded and received for each of said shipments a price or consideration in excess of the maximum price established therefor by Revised Maximum Price Regulation 26, as amended. That the overcharges made by defendant are as follows:

Date	Order and Invoice No.	Car No.	Customer	Overcharge
1943				
Sept. 3	8358	NP- 17,862	John Schroeder Lumber Co.	\$256.74
Sept. 10	8358	NP- 12,494	John Schroeder Lumber Co.	226.56
Oct. 7	8358	WAB-45,712	John Schroeder Lumber Co.	234.86
Total.....				\$718.16

*Page numbering appearing at foot of page of original certified Transcript of Record.

VI.

That three times the aggregate amount by which the price received by the defendant referred to in Paragraph V above, exceeded the maximum price provided therefor, equals Two Thousand One Hundred Fifty-four Dollars and Forty-eight Cents (\$2,154.48).

Wherefore, plaintiff demands judgment on behalf of the United States against the defendant in the sum of Two Thousand One Hundred Fifty-four Dollars and Forty-eight Cents (\$2,154.48) and costs incurred herein.

/s/ JEROME S. BISCHOFF

Chief Attorney, Lumber Enforcement Unit San Francisco Regional Office, O. P. A.

/s/ NORMAN T. J. McCaffery

Enforcement Attorney, Portland District Office, O.P.A.

Dated this 2nd day of Sept., 1944.

[Endorsed]: Filed Sept. 2, 1944. [2]

[Title of District Court and Cause.]

AMENDED ANSWER

Defendant for answer (amended by leave of the Court) to plaintiff's Complaint.

I.

Denies paragraph I of the Complaint.

II.

Admits paragraphs II, III and IV of the Complaint.

III.

In respect of paragraph V of the Complaint admits it is a wholesale lumber dealer located at Portland, Oregon, and avers that from and including September 3, 1943 to and including October 7, 1943 it sold and delivered the three (3) carloads of Douglas Fir lumber (as identified in the Complaint) to John Schroeder Lumber & Supply Co., and that none of the lumber so sold by it was for use or consumption other than in the course of trade or business, and that prior to such sale it carefully studied the provisions of Revised Maximum Price Regulation 26, as amended, and took other practicable precautions against the occurrence of any violation thereof, and then made such sale in good faith and without any intent to violate any provision thereof wilfully or otherwise, and specifically denies each and every other allegation contained in paragraph V of the Complaint.

IV.

Denies each and every allegation contained in paragraph VI of the Complaint. [3]

For a further affirmative defense defendant avers that the Court lacks jurisdiction.

(1) Because it does not appear in the Complaint that the bringing of this action has been authorized by the named plaintiff;

(2) Because the attorney appearing for the named plaintiff has acknowledged in open court that

this action was brought by him on his own discretion and without specific authority from the named plaintiff to bring this particular action, and the same was brought without the exercise of the discretion of the named plaintiff:

(3) Because the attorney purporting to represent the plaintiff is without authority to bring this action or to represent plaintiff in this action;

(4) Because the Complaint fails to allege any delegation to the attorney appearing for plaintiff of the discretion of the named plaintiff to determine whether this action shall be brought or prosecuted; and

(5) Because the named plaintiff is not authorized by law to delegate his discretionary powers to any other person.

Wherefore defendant demands that plaintiff take nothing by his Complaint and that defendant have judgment for its costs and disbursements.

WILLIAM C. McCULLOCH
of Attorneys for Defendant
TEAL, WINFREE, McCULLOCH,
SCHULER & KELLEY
of Counsel for Defendant

December 5, 1944.

[Endorsed]: Filed Dec. 5, 1944. [4]

In the District Court of the United States
for the District of Oregon

Civil No. 2559

CHESTER BOWLES, Administrator, Office of
Price Administration,

Plaintiff,

vs.

PATRICK LUMBER COMPANY, a corporation,
Defendant.

MEMO OF DECISION

I think plaintiff has failed to sustain the burden of proof. I do not feel convinced by a preponderance of the evidence that the interpretation of the regulations advanced by Mr. Jayne, and espoused by Mr. Bischoff, is the correct interpretation, as opposed to the interpretation acted upon by Patrick, Brushoff, Edwards and the mill.¹

This failure to sustain the burden of proof on the major issue makes it unnecessary to decide other questions.

Dated December 11, 1944.

CLAUDE McCOLLOCH

Judge

[Endorsed]: Filed Dec. 11, 1944. [5]

¹ The question involved is a technical trade and industry question. See the letter of Mr. Stone where he grounds his position, at least in part, on what he considers sound conservation practice. See the letter of Mr. Patrick where he expresses the feeling that the mill-man should be complimented for his resourcefulness in getting out boards, then at a premium.

[Title of District Court and Cause.]

FINDINGS OF FACT AND CONCLUSIONS OF LAW

The above entitled cause came on for trial on December 5, 1944 before the Honorable Claude McCulloch, Judge of said Court, plaintiff appearing by Jerome S. Bischoff and Norman T. J. McCaffery, and defendant appearing by William C. McCulloch and Howard T. McCulloch, and the parties having offered evidence and having argued and submitted the cause, and the Court having considered the evidence and argument and having taken the cause under advisement, the Court now makes the following:

FINDINGS OF FACT

I.

Defendant is an Oregon corporation engaged in business at Portland, Oregon, as a wholesale lumber dealer. From and including September 3, 1943, to and including October 7, 1943, defendant sold and delivered to John Schroeder Lumber & Supply Co., 3 cars of Douglas Fir Green Dimension lumber. The three cars so sold by defendant are described in the complaint.

II.

Revised Maximum Price Regulation 26 of June 9, 1943 prescribed maximum prices on Douglas Fir Green Dimension lumber and was in effect when defendant made said sale.

III.

The prices charged by defendant for the lumber in said three (3) cars did not exceed the maximum prices prescribed in said Regulation.

Based upon the foregoing Findings of Fact, the Court makes the [6] following:

CONCLUSIONS OF LAW

I.

The defendant did not violate the Emergency Price Control Act of 1942 or any regulation, order or price schedule issued thereunder.

II.

Defendant is entitled to a judgment that this action be dismissed.

Done this 18th day of December, 1944.

/s/ CLAUDE McCOLLOCH

Judge.

[Endorsed]: Filed Dec. 18, 1944. [7]

In the District Court of the United States
for the District of Oregon

Civil No. 2559

CHESTER BOWLES, Administrator, Office of
Price Administration,

Plaintiff,

vs.

PATRICK LUMBER COMPANY, a corporation,
Defendant.

JUDGMENT

This cause having heretofore come on regularly for trial, the Parties having appeared by their respective attorneys, and the Court having heard and considered evidence and argument and having duly made Findings of Fact and Conclusions of Law, and the defendant at this time moving for judgment pursuant thereto, and the Court being fully advised in the premises, it is

Adjudged and Ordered by the Court that this action be and the same is hereby dismissed.

CMC Costs to Neither Party.

Done this 18th day of December, 1944.

CLAUDE McCOLLOCH

Judge.

[Endorsed]: Filed Dec. 18, 1944. [8]

[Title of District Court and Cause.]

NOTICE OF APPEAL

To Patrick Lumber Company, a corporation, defendant above named, and to William C. McCulloch, its attorney.

Notice is hereby given that Chester Bowles, Administrator, Office of Price Administration, plaintiff above named, hereby appeal to the Circuit Court of Appeals for the Ninth Circuit, from that certain judgment, dismissing said action, made and entered in the above entitled action on the 18th day of December, 1944.

Dated at Portland, Oregon this 24th day of February, 1945.

/s/ F. E. WAGNER

/s/ W. DUNLAP CANNON, Jr.

Attorneys for Appellant

Chester Bowles,

Administrator

[Endorsed]: Filed Feb. 24, 1945. [10]

[Title of District Court and Cause.]

DESIGNATION OF RECORD

Comes now the plaintiff above named and as appellant in the above entitled action submits the following as his Designation of Record on the appeal of said matter to the United States Circuit Court of Appeals for the Ninth Circuit.

1. Complaint
2. Amended Answer
3. Memorandum of December 11, 1944
4. Findings of Fact and Conclusions of Law.
5. Judgment of Dismissal
6. Order denying Motion for Supplementary Findings of Fact and Conclusion of Law
7. Transcript of Pre-trial Conference, December 4, 1944
8. Transcript of Trial, December 5, 1944
9. Notice of Appeal
10. This Designation of Record
11. Order to Forward Exhibits

Dated at Portland, Oregon, this 22nd day of March, 1945.

12. Transcript proceedings March 19, 1945, in re Motion Supplementary Findings of Fact and Conclusions of Law

F. E. WAGNER

Of Attorneys for Appellant

[11]

State of Oregon,

County of Multnomah—ss.

Due service of the foregoing Designation of Record is hereby accepted by receiving a duly certified copy thereof.

Dated at Portland, Oregon this 22 day of March, 1945.

WILLIAM C. McCULLOCH

Of Attorneys for Defendant

[Endorsed]: Filed Mar. 23, 1945. [12]

[Title of District Court and Cause.]

ORDER TO FORWARD EXHIBITS

It appearing necessary that the original exhibit in the above described cause accompany the transcript of record upon appeal to the Circuit Court of Appeals for the Ninth Circuit.

It Is Ordered that the Clerk of this Court forward to the Clerk of the Circuit Court of Appeals for the Ninth Circuit all original exhibits introduced in evidence in this cause.

Dated at Portland, Oregon, this 23rd day of March, 1945.

CLAUDE McCOLLOCH

Judge

[Endorsed]: Filed March 23, 1945. [13]

United States of America,
District of Oregon—ss.

CERTIFICATE OF CLERK TO TRANSCRIPT
OF RECORD

I, Lowell Mundorff, Clerk of the United States District Court for the District of Oregon, do hereby certify that the foregoing pages numbered 1 to 14 inclusive, constitute the transcript of record on appeal from a judgment of said court in a cause therein numbered Civil No. 2559, in which Chester Bowles, Administrator, Office of Price Administration, is Plaintiff and Appellant, and Patrick Lumber

ber Company, a corporation, is Defendant and Appellee; that said transcript has been prepared by me in accordance with the said designation of contents of the record on appeal filed by the appellant, and in accordance with the rules of this court; that I have compared the foregoing transcript with the original record thereof and that it is a full, true and correct transcript of the record and proceedings had in said court in said cause, in accordance with the said designation as the same appears of record and on file at my office and in my custody.

I further certify that there is enclosed herewith duplicate transcripts of pre-trial conference, and trial proceedings taken in this cause, also exhibits 1 to 15 inclusive.

In Testimony Whereof I have hereunto set my hand and affixed the seal of said court at Portland, in said District, this 27th day of March, 1945.

[Seal]

LOWELL MUNDORFF,

Clerk.

By F. L. BUCK

Chief Deputy. [14]

[Title of District Court and Cause.]

Portland, Oregon, Monday, December 4, 1944.

11:09 o'clock A. M.

Before: Honorable Claude McCulloch,
Judge.

PRE-TRIAL CONFERENCE

The Court: Now Mr. McCulloch. What do you have, Mr. Tongue? [1*]

Mr. Thomas H. Tongue III: Your Honor, I am interested in the pre-trial that is now about to take place, with the permission of the Court.

The Court: All right.

Mr. Bishoff: If the Court please, this is a treble-damage action, brought by the Administrator against the Patrick Lumber Company for overcharges which were made in violation of Revised Maximum Price Regulation No. 26, covering Douglas Fir lumber. Mr. McCulloch and I have reached a stipulation I believe on substantially all of the facts, some of the issues of law, and we have been able to reduce the other issues of law to our respective contentions, and we have a form of pre-trial order almost ready for submission to your Honor. We haven't completed it, awaiting the outcome of this morning's conference, and will submit it at that time.

The number of transactions is very small. They involve the shipment of three cars of lumber which

*Page numbering appearing at foot of page of original certified Transcript.

were purchased by the Patrick Lumber Company from a mill located at Eugene.

The controversy concerning the three cars is identical, and the question is what would be the proper prices for the item sold. The item sold and invoiced by the Patrick Lumber Company was of the same description as that which was bought, so there is no element of any change of any kind. The item sold is described on the sales invoices as Douglas Fir, surfaced one side to 11½ inches, hit and miss, surfaced 2 edges standard [2] green, and we have attached to the order copies of the invoices both from the mill to the Patrick Lumber Company and from the Patrick Lumber Company to the customer.

It is stipulated in the agreed statement of facts that there is no dollar and cents price in the Regulation for this item. The controversy comes, then, as to whether Section 12 of the Maximum Price Regulation 26 is applicable to this item.

The sawmill itself, after the delivery of the lumber and pursuant to our request, filed an application with the Office of Price Administration, Lumber Branch, Washington, D. C., pursuant to Section 12, to obtain a price on the lumber sold, and the figures in the complaint, it is conceded, represent the overcharge computed by using the price which was fixed in response to the special application. The Patrick Lumber Company, which is a wholesale concern, did not file a special application and one of the issues of law, therefore, is whether or not the price fixed for these sales carries

over from the mill to the wholesaler in reselling the lumber.

The Court: State the last sentence again.

Mr. Bischoff: One of the issues is whether or not the price fixed by the Lumber Branch in response to the special application made by the mill carries over to a subsequent sale by a wholesale firm of the identical lumber.

Our position is that this lumber constitutes what is known as a direct mill sale, and it is so stipulated; that is, [3] that it moved directly from the sawmill to the ultimate customer physically, without possession ever having entered the Patrick Company. This is, the Patrick Company acted as a normal wholesaler does and bought and resold without taking the physical possession. The lumber was delivered directly and routed directly from the sawmill to the ultimate customer.

Then a second issue raised by the defendant in this case is whether or not the price which was fixed after the lumber had been sold and delivered in response to the special application had the effect of being applicable as of the time of the delivery.

Perhaps, in order to point up this preliminary discussion, I might call your Honor's attention to the provisions of Section 12 so that you can follow this a little better.

Section 12 reads as follows:

"Grades, services, or extras not listed.

"(a) If a seller wishes to sell a grade which is not specifically priced in the price tables, or wishes to make an addition for special workings, specifica-

tions, services, or other extras for which additions are not specifically permitted, he must apply to the Lumber Branch, Office of Price Administration, Washington, D. C., for a maximum price."

Then it roughly provides he must describe the item, the price he wants, and so on.

Then it further provides:

"As soon as the request has been filed, quotations and [4] deliveries may be made at the requested price, but the final payment may not be made until the price has been approved. Action on the request may be by letter or telegram."

Now in this case the lumber was sold and billed and the money received, and the application was not made until long subsequent to that. So that the issue of law is, whether or not the price which was fixed on the application made at the later date had the effect of fixing the price as of the time of the delivery.

The defendant also raises the question of delegation of authority to the Office of Price Administration for authority to file this lawsuit. This case was instituted by myself and by Mr. McCaffery. I am the Chief of the Lumber Enforcement Unit of the San Francisco Regional Office of OPA, and the question raised will be, I suppose, perhaps that of the Wheeler case, which was decided by your Honor, though I am not clear as to whether or not the Wheeler case was decided on the general ground of the validity of the order, or whether or not there was some element of rati-

fication, or whether or not the suit in that case was filed before the order was signed.

The pleadings do not contain a good faith answer and Mr. McCulloch intends to urge it and will wish to amend, and we have no objection.

The facts stipulated are outlined in our pre-trial order and roughly admit all of the formal allegations; admit the authenticity of copies of the invoices which are attached as exhibits. [5] They admit the existence of the application of the West Side Lumber Company to the Lumber Branch for a price; a copy of a letter from the Lumber Branch to the West Side Lumber Company refusing and fixing price; a subsequent letter of the Lumber Branch fixing a price for this character of lumber.

Admit the arithmetic of the case; that is, the amount of overcharge, if the Court should find that there is an overcharge.

Then the agreed statement of facts further stipulates that copies of two letters from the Patrick Lumber Company, one directed to me and one directed to the West Side Lumber Company, may be introduced in evidence.

Stipulates that copies of the American Lumber Standards and of the Grading Rules of the West Coast Bureau of Lumber Grades and Inspection may be admitted.

Then there is one further element of fact, and that is we have also set forth a summary of testimony which would be given by a Supervisory Inspector of the West Coast Lumber Association

if he were called as a witness, as to the actual character of the lumber that was shipped.

Now Mr. McCulloch has reserved objection to the materiality—the right to object to the introduction of that evidence, but I don't believe that there is any question as to what he would state if he were called. That is correct, isn't it?

Mr. William C. McCulloch: What is that? [6]

Mr. Bischoff: I just want to know whether you agreed with my statement of our position about this Ranstrom evidence; that is, that Ranstrom, if called here, would testify as we have outlined, but that you reserve your right to object to the admissibility of the evidence.

Mr. William C. McCulloch: I don't question that the suggested witness would testify as Mr. Bischoff has stated, but I haven't agreed that what he would testify if he were called as a witness would be material, or that it should be incorporated in the pre-trial order. I may say in that connection, your Honor, the final draft of this proposed pre-trial order was handed to me after I came in the courtroom this morning and we haven't had a chance to settle the final details of it.

Mr. Bischoff: One other fact that I have set forth in the pre-trial order and which was not discussed in detail with Mr. McCulloch is the statement of facts, simply "That Patrick Lumber Company during the months of May or June, 1943, had filed with the Lumber Branch of the Office of Price Administration a special price approval application for a special nonpriced item generally de-

scribed in the"—it should be the "application"—
"as New York Board of Transportation Ties."

Now we have agreed as to certain conclusions of law which we have incorporated in this draft of order, which substantially admit the jurisdictional allegations; admit that the regulation does not contain a dollar and cents price item on [7] this lumber; admit that the lumber constitutes direct mill shipments.

Then we have a section to the draft setting forth the Administrator's contentions of law, and roughly those contentions are these:

That in a situation in which there is no price in the Regulation and the sale is made without having made an application for a price, that a price subsequently fixed in response to an application is effective and binds—and does fix the price on that sale as much as though it had been in existence at the time of the actual delivery.

The second proposition is that once a price is fixed for a specific shipment of lumber, or for a direct mill shipment of lumber, it is applicable to the wholesaler, or whoever else in the chain of title handles the lumber while it continues in its characteristic of being a direct mill sale.

The Court: With or without notice?

Mr. Bischoff: Yes, your Honor. The third proposition of law is that any person who sells such an item of lumber, whether a mill man or a wholesaler, is responsible for his own overcharges to the extent that they exist, and the fact that one or the other of them may have been sued by the

Office of Price Administration, or made rebates, or anything of the kind, does not excuse the second or other party.

The next proposition of law is that the fact——

The Court: You have another case concerning this transaction?

Mr. Bischoff: Yes. We have a case pending against the sawmill in this Court. It is the West Side Lumber Company of Eugene, Oregon.

The Court: Oh, Mr. Tongue's case?

Mr. Bischoff: The case in which Mr. Tongue is interested; and that case involves not only these transactions but a considerable number of other unrelated transactions.

The Court: That has not gone to judgment, has it?

Mr. Bischoff: No.

The Court: Well, you don't claim you can recover twice, do you?

Mr. Bischoff: Pardon?

The Court: You don't claim you can recover twice, do you?

Mr. Bischoff: Yes, we do, your Honor. That is just as though these were——

The Court: Do you understand my question? I didn't ask you whether you could sue twice; I ask whether you could sue and recover for the same claim twice?

Mr. Bischoff: You mean could we claim overcharges from the sawmill, and then sue the wholesaler and recover overcharges?

The Court: The same transaction?

Mr. Bischoff: The same transaction.

The Court: Recover twice?

Mr. Bischoff: Yes. [9]

The Court: That would be six times.

Mr. Bischoff: Yes. Yes, it would, your Honor. Now the next question of law related to the Chandler Act offense of good faith and practicable precautions, and the argument roughly is that in the event that a vendor of lumber who has a special item which is not priced does not make an application for a price, he is liable for three times the amount of the overcharges.

In this case we will argue from some of the exhibits that the defendant was aware that this was not a standard item and had discussed the price with his supplier prior to the manufacturing of the lumber, and knowing that it was a scant product, not priced, it was his duty to apply, in accordance with the statute, and that if he did not he simply took the burden and the responsibility of accepting whatever price was ultimately fixed.

The Court: Mr. Tongue, I wish you would come inside. I may want to ask you some questions. I wish you would come over there. I know you will need to write and you may write on that table.

Mr. Bischoff: That is the gist of the case.

The Court: I would like anybody's answer to this question. To what extent is there an interlocking in this case with this other case which has just been mentioned against the mill? Can anybody enlighten me?

Mr. Bischoff: Yes, there is to this extent: The

price application was filed by the sawmill. The letter of approval from the [10] Lumber Branch of the Office of Price Administration was directed to the sawmill fixing that price.

The Court: To what extent, if I try this case tomorrow and decide it tomorrow, will I be deciding questions that are involved in the case against the sawmill, which has not yet been tried? That is what I want to know—questions of law and fact, or either?

Mr. Bischoff: Oh. It is a little hard to answer. I will do it the best I can this way. The basic propositions on this class of transactions are much alike. However, there are certain defenses which may be available to the wholesaler, Mr. Patrick, or the Patrick Lumber Company, which might not be available to the sawmill, because of the question of knowledge.

The Court: No. We start with this, don't we: that the transactions in this case are all involved in the case against the mill?

Mr. Bischoff: That is right.

The Court: And some others?

Mr. Bischoff: That is correct.

The Court: But everything that is here is in the mill case?

Mr. Bischoff: Yes, that is correct.

The Court: Now go ahead.

Mr. Bischoff: But I wish to point out that the wholesaler, the Patrick Lumber Company, is not in the same position as the mill, because they didn't actually manufacture the lumber and [11] don't

have the same knowledge, or may not have the same knowledge—and here it is claimed that they do not—that the sawmill does as to the material content of the lumber in those cars, which would possibly differentiate the two cases.

The Court: Well, I know, even on my inadequate grasp of the case from what you have said—I get your thought but it will take more than this to give me the knowledge of the case that the lawyers have, but from the inadequate grasp I have, one of these questions of retroactivity is common to both cases.

Mr. Bischoff: That is correct.

The Court: And as you have gone along it seemed to me there were other questions of construction of the regulations that are common to both cases.

Mr. Bischoff: That is, all of the phase of the case which has to do with the determination of what the price is on these three cars is common to both parties. Then in addition there is the question of whether or not that price carries over from the sawmill to the wholesaler, which would be a question only in this case.

The Court: Well, some of the questions in this case, should it be ruled adversely to the Government, would be determinative of the case against the mill, too, wouldn't they?

Mr. Bischoff: Yes, that is true. That is, they could foreclose our position.

The Court: What, for instance? [12]

Mr. Bischoff: Well, I mean if your Honor rules that——

The Court: You just go ahead and develop that a little further for me.

Mr. Bischoff: If your Honor rules that the price is not retroactive, for instance, that would foreclose the transaction. If your Honor should rule that the price is retroactive but that it does not transfer over to the wholesaler, that would foreclose our case against this defendant but not against the mill. It can take different forms.

The Court: It seems too bad to me that the same Judge is not trying both cases. I am sure that is the way it would have been handled had it been called to our attention there were two cases here involving the same transactions, and I expect to discuss with Judge Fee when I see him at lunch as to what we can do about it. What is the status of the case against the mill? When will it be for trial?

Mr. Tongue: That case is now pending on pre-trial conference, your Honor. It may be, however, there will be some other preliminary matters we desire to discuss with the OPA attorneys.

Mr. Bischoff: I am told that is on call for the eleventh, your Honor.

The Court: The Clerk just told me it is for pre-trial on the eleventh. Would you like to be heard, Gentlemen?

Mr. William C. McCulloch: If the Court please, I don't want to repeat but to sketch very briefly

the agreed statement of [13] facts as it is developed up till now with Mr. Bischoff.

The defendant stipulates that the plaintiff, Chester Bowles, is Administrator of the Office of Price Administration, but goes no further than that, and doesn't concede that he brings this action pursuant to the provisions of Section 205(e) of the Emergency Price Control Act of 1942 as amended.

The defendant admits that it is an Oregon corporation and in the business of buying and selling lumber at wholesale, Douglas Fir lumber.

It is stipulated, as Mr. Bischoff stated, that the lumber in the three cars in question, as identified by mill invoices to Patrick Lumber Company, and by invoices from Patrick Lumber Company to its customer, the John Schroeder Lumber & Supply Company, are as shown in six exhibits which will be attached to the pre-trial order.

It is stipulated also that on August 3, 1944, the Office of Price Administration, Lumber Branch, by and through Peter A. Stone, Chief Price Executive, Lumber Branch, Washington, D. C., issued a special price to the West Side Lumber Company covering the lumber described in the fir—in that application. A copy of the original application will be an exhibit attached to the pre-trial order, and that exhibit indicates on its face that the mill made this application in accordance with request of Mr. Jerome S. Bischoff, of Portland, Oregon, OPA office.

Then Exhibit No. 9 is a copy of a letter from

Peter [14] Stone to the West Side Lumber Company dated June 22, 1944, in which Mr. Stone, the Price Executive of the Lumber Branch, informed the applicant that no such price could be approved at this time, and refused the application.

The Exhibit No. 10 is a copy of Peter Stone's letter of August 3rd, 1944, to the mill, establishing a price, referring to his previous refusal to establish a price, in which he says:

"We replied to your letter pointing out that inasmuch as request for price approval had not been made prior to shipment that we felt that we could not establish prices at this time. We are now advised by Acting Chief Counsel that in view of your request for the establishment of prices that we are required to comply."

Then his letter sets out the prices which Mr. Bischoff contends apply retroactively to these transactions.

The Court: How far back?

Mr. McCulloch: That is just what I was going to state, your Honor. The first of the three cars was shipped September 3rd, 1943; the second September 16, 1943, and the third October 7th, 1943, whereas the price finally approved, after one declination, was dated August 3, 1944.

The Court: Did Patrick know that the mill was doing this?

Mr. McCulloch: I don't know, but Mr. Patrick is here. Will you answer his Honor's question?

Mr. Patrick: I don't recall on that. I do remember the mill [15] came and talked to me after they

got the letter but I didn't see the letter until Mr. Bischoff showed it to me about September—well, the latter part of August, August 31st or somewhere along in there.

The Court: Patrick paid the mill and Patrick's customer paid him?

Mr. Patrick: Yes.

Mr. McCulloch: That is correct.

The Court: And the thing had all been closed up long before the——

Mr. Patrick: The lumber was all paid for.

Mr. McCulloch: That is very true, your Honor, yes; months before this price was established the transaction had been entirely closed. This matter of the retroactivity of this price established August 3, 1944, is of the most vital importance in this case, because the action is to recover treble damages. Now it is easy enough for the plaintiff to establish the price that the defendant charged its customers for the lumber, but for the purpose of establishing whether there was an overcharge there must be some basis of an established price with which to compare the price that the defendant charged its customer. In other words, if *there no* evidence of a base price with which the price charged to the customer can be compared, the action must fail of course for lack of proof.

I want to ask Mr. Bischoff in this connection, in con- [16] nection with the establishment of this price of August 3, 1944, by the Price Executive at Washington, D. C., other than the three exhibits, that is the letter of the mill of June 8th, the reply

of Peter Stone to that letter of June 22nd, and Stone's final letter of August 3, 1944, whether there were any communications on that subject between you or your office and Peter Stone or his office.

Mr. Bischoff: Why, yes, there were.

Mr. McCulloch: I shall ask—I think it is very material and vital for that correspondence, the complete exchange of communications on this subject—I haven't seen them, your Honor, and I don't know what they are, but I think the plaintiff should be required to incorporate the entire correspondence on the subject in any pre-trial order, or to make it available for inspection by the defendant's attorneys.

The Court: Let me have a couple of dates first. Working back, I have here August 3, 1944. That is where the price was fixed?

Mr. McCulloch: That is right.

The Court: Now give me the last shipment.

Mr. McCulloch: The last shipment, your Honor, was October 7, 1943.

The Court: That is the date on what—somebody's invoice?

Mr. McCulloch: That was the date of the Patrick Lumber Company's invoice to the John Schroeder Lumber & Supply Company. [17]

The Court: Now when did this mill—I understand at Mr. Bischoff's suggestion—

Mr. McCulloch: That is right, your Honor.

The Court: When did this mill first apply for a price?

Mr. McCulloch: Exhibit 8 is a letter from the West Side Lumber Company to the Office of Price Administration, Lumber Division, Washington, D. C., dated June 8th, 1944: "In accordance with request of Mr. Jerome S. Bischoff, of Portland, Oregon, O.P.A. office, we wish to submit the following request for special price authorization."

The Court: Now when did Patrick first know he was going to have trouble about this?

Mr. McCulloch: I shall ask Mr. Patrick to answer that.

Mr. C. C. Patrick: I was thinking about that. You say when I first knew?

The Court: First knew when you were going to have a claim against you.

Mr. Patrick: The first I knew was when Roger Jayne told us he thought we were going to have trouble on this car, that they were investigating it from the West Side Lumber Company; that the West Side Lumber Company had pulled some fancy trick or something, and the West Coast Lumber Association wanted them checked up, they were going to check that order and "I think you are going to have to revise your prices on it."

The Court: About when was that? [18]

Mr. Patrick: I was trying to think when that was, but I would guess that was right after receipt of that letter of August 3rd, because at that time I went down to his office and he showed me this letter from Peter Stone. I am not positive of the date I was over there. Maybe he will recall.

Mr. Bischoff: Mr. Jayne was here.

Mr. Patrick: Well, is that about right?

Mr. Bischoff: Well, I don't recall the exact time.

Mr. Patrick: I don't either.

Mr. Bischoff: Except it was shortly after the investigation of the sawmill.

The Court: All right. Then let's see if I understand the situation generally. The transaction was had in 1943 and completed?

Mr. McCulloch: That is right, in September and October.

The Court: And the following year, in the middle of the year, at the suggestion of Mr. Bischoff, the mill applied for a price, which was given?

Mr. McCulloch: Right, your Honor.

The Court: And this case is whether that price applies retroactively back to the transaction in 1943?

Mr. McCulloch: Correct.

The Court: Is that what this case is about?

Mr. Bischoff: Yes, your Honor. If I may make one statement here, your Honor may wonder—I know your Honor wonders—why [19] the request to the sawmill to file an application came at such a late date. The reason that it came at such a late date is that the Office of Price Administration does not know what goes on until it investigates the activities of what goes on and finds an item which it does not think conforms with the price regulation. At that time there takes place whatever investigation—

The Court: Now do I understand you to mean that it is the duty of all parties having to do with an item, a special item like this——

Mr. Bischoff: Yes.

The Court: ——at the time before they handle it, to obtain a price?

Mr. Bischoff: Yes, your Honor.

The Court: Is that your theory?

Mr. Bischoff: Yes. I will just point it out. Section 12 (3) of the regulation—oh, 12 (3) (b): “As soon as the request has been filed, quotations and deliveries may be made at the requested price, but the final payment may not be made until the price has been approved. Action on the request may be by letter or telegram.” That is, this section of the regulation is designed to take care of that multitude of special items which were created by the war demands. All kinds of novel specifications have been sold which were not sold in peacetime and it could not be anticipated what they were going to be and there was no method of pricing them except by special application, and, therefore, this provision [20] was incorporated requiring application.

The Court: Is there any place in the statute, or regulation, that says a man deals at his peril in a special as to which there was no prior ceiling price without first obtaining a price by application to the OPA?

Mr. Bischoff: Well, we think that this section I have just read to your Honor does that. And then the introductory section of the regulation

provides generally that no one may buy or sell at prices higher than those fixed by the regulation, or agree, offer, or attempt to do any of these things. We think that that provision requires a vendor to price by the regulation, and then we think that Section 12 requires a person who is selling an item which is not specifically priced to make an application and, as your Honor puts it, at his peril—generally at his peril. There is no way of telling in advance what the price will be until the application is made. Generally speaking, the Lumber Branch tries to apply the normal differential to fit these items, but a good share of the argument in this case will be the construction of Section 12 on that very point.

The Court: What did the mill base its price on? Who established it? Whose activity and ideas fixed the price?

Mr. Patrick: The mill initiated it. If you care to, I will be glad to tell you how it came up. At that particular time the Central Procurement Agency was having difficulty——

The Court: I think I will just swear you, Mr. Patrick. Raise [21] your right hand.

C. C. PATRICK

was thereupon duly sworn by the Court and testified as follows:

Mr. Patrick: At about that time the Central Procurement Agency was having difficulty getting enough one-inch boards and they were crowding the mills for delivery, deliveries of boards, and put

(Testimony of C. C. Patrick)

a restrictive order out requiring a certain percentage to be shipped or they would not release their orders. So this mill was trying to find some way to increase their production of boards. They are one of the circular head rig mills, which is a medium size or small mill. Their mill is not as accurate as the larger mill or better equipped mill, or the mill that has a band head rig, so there is a variance in size of the lumber as it comes from the head rig. I am talking about from the mill standpoint now, because it was argued with me that with their type of equipment they could not saw 3-inch accurately enough to insure resawing to one piece of 1-inch and two pieces of 2-inch. They didn't want to do it that way. That is the reason I remember it so distinctly. He said, "I could cut a 3-inch plank"—they had just bought a little resaw and they could put the little resaw in and resaw a 1-inch piece and the remaining piece be used for a 2-inch dimension.

The Court: I guess I won't take the time to develop this now. I think maybe a question will get what I want right now. The discussion between you and the mill fixed the price that was [22] used in this?

Mr. Patrick: No. No. The mill said, "Here is what I can do. I can get this piece of 1-inch and I can get a piece of 2-inch, which, on account of my variance in production, may not dress inch and five-eighths, so I have got to sell it dressed inch and a half." And he said, "Here is what I have

(Testimony of C. C. Patrick.)

figured out in the way of prices. What do you think?" I said, "I don't know. Brushoff and Edwards will know much more about the price list than I do, so I will have to get them to check on it." He said, "I have had them check at two places in Eugene and these prices conform strictly with OPA ceiling regulation." So I wrote a memorandum, just what he would do, and sent it to our Portland office and Mr. Brushoff and Mr. Edwards both worked up the prices entirely separately, which came out slightly differently than the prices West Side had given, and they exchanged some correspondence back and forth as to details and finally came to an agreement on the prices. All four of them agreed that it did conform with ceiling requirements.

The Court: Did, or did not?

Mr. Patrick: They did. That is, the prices that were made in our formal order to them had been agreed upon before we sent it down as conforming with OPA ceiling prices.

The Court: All right.

Mr. Patrick: Also before we started shipping I called up two individuals in town who had a little connection with us and [23] asked them what they thought——

The Court: You will have an opportunity, of course, to cross examine.

Mr. Bischoff: Yes.

The Court: Now, Mr. McCulloch, let's finish.

Mr. McCulloch: Passing now until your Honor

wishes to rule on my request that the additional communications on the subject of this retroactive price between Mr. Bischoff or his office and Mr. Stone or his office be supplied for inspection to the defendant's attorneys——

The Court: Well, I will see how the trial shapes up tomorrow. Your records are here in town.

Mr. McCulloch: Very well.

The Court: We will see how the trial shapes up.

Mr. McCulloch: Very well. The defendant, or the defendant's attorneys, have not reached an agreement with Mr. Bischoff on the paragraph he has inserted in the tentative pre-trial order stating what C. F. Ranstrom, if called to testify as a witness, would state. That paragraph does state this: that the apparent source and motive and origin of this action came from the West Coast Lumbermen's Association and its Bureau of Grades, where this proposed witness was employed; and, furthermore, his testimony does not purport to connect up any of the lumber in the three cars that Patrick Lumber Company shipped that are involved [24] in this case with what the inspector found in connection with his inspection of the mill. Mr. Bischoff mentioned that but I wanted to make it plain to your Honor that the proposed stipulation in that respect has not been agreed to by the defendant.

Now Mr. Bischoff mentioned——

Mr. Bischoff: May I interrupt for one second? I don't like to interrupt but I just, in order that we may know whether we are going to have to have

a witness or not, I would like to know whether or not you would agree that if this witness were called this is what he would testify; but I don't want to ask you to stipulate away your right to object for grounds for failure to connect the evidence, and so on, but merely as to the substance of the statement.

Mr. McCulloch: Just a minute. I think, if the Court is to consider anything this man might say within his knowledge, he ought to be here, subject to cross examination, and I don't feel that we ought to agree with counsel's request in that respect. Now Mr. Bischoff mentioned for the first time—I haven't seen it before this morning—paragraph XI of the agreed statement of facts. It is very short, reading.

“That Patrick Lumber Company during the months of May or June, 1943, had filed with the Lumber Branch of the Office of Price Administration, a special price approval application for a special nonpriced item generally described in the application as New York Board of Transportation Ties.” [25]

I had never heard of that before this morning. I showed it to Mr. Patrick. He said it wasn't true, and obviously we are not stipulating that as part of the agreed facts.

Mr. Patrick: Oh. I had better correct that. I didn't read it. I just saw that top that said I applied for a price on this item. All I said was I didn't apply for this one. We may have applied

for one to the New York Board of Transportation. But what has that got to do with this case?

Mr. McCulloch: Well, I will discuss this particular paragraph with Mr. Patrick further and with Mr. Bischoff later today. At the present time I am fully inadvised about what materiality it may have in this case. Now in the agreed conclusions of law, paragraph II, as Mr. Bischoff has run this up, reads: "Plaintiff, as Administrator of the Office of Price Administration, brought this action pursuant to the provisions of Section 205 (e) of the Emergency Price Control Act, as amended."

That just goes right to the heart of one of our contentions and we are not consenting that that is one of our agreed conclusions of law.

Paragraph IV of his agreed conclusions of law reads:

"That Revised Maximum Price Regulation 26, effective during the months of September and October, 1943, does not contain a dollar and cents price upon common or select grades of rough green Douglas Fir dimension lumber surfaced one side and two edges to $1\frac{1}{2}$ inches, hit and miss, in standard widths of 4, [26] 6 and 8 inches."

I am uncertain myself just what interpretation the plaintiff would put on that language in that paragraph that I have just read. I think I know what plaintiff means. I think the plaintiff's interpretation and the defendant's interpretation, for that matter, are in direct conflict, and since the agreed evidence will be in this record on the trial of this case it is ample to enable the Court to draw

a sound and correct conclusion of what the Maximum Price Regulation does provide in that connection we are not agreeing with that either.

The Court: You are very flattering to me.

Mr. McCulloch: Well, I——

The Court: If you two can't agree it ought to be easy for me.

Mr. McCulloch: Now the last paragraph—no; the last sentence of paragraph VI of the agreed conclusion, "That the dollar and cents prices fixed by Revised Maximum Price Regulation 26, as amended, are applicable only to standard grades and specifications of lumber as defined by American Lumber Standards for Softwood and the Standard Grading and Dressing Rules of the West Coast Bureau of Grades and Inspection."

That, again, is in the category of paragraph IV that I have just mentioned. We are not agreeing with that conclusion, but the evidence in the record will be ample from which a conclusion, and a correct conclusion, can be deduced. [27]

Now as to the defendant's contentions of law, first, that "Defendant contends that Section 12 of Revised Maximum Price Regulation 26 is not applicable to the sales described in the complaint, for the reason that they are not included within the coverage of the provisions of Sub-section (a)."

That Subsection (a) reads:

"If a seller wishes to sell a grade which is not specifically priced in the price tables, or wishes to make an addition for special workings, specifications, services, or other extras for which addi-

tions are not specifically permitted, he must apply to the Lumber Branch," and so on.

That is one of our important contentions.

In that connection, I might say this, your Honor: That Section (a) reads, "If a seller wishes to sell a grade." Doubtless attorneys on both sides here will be making argument pro and con on the use of the word "grade" there. I am not going into that now, but it is obvious that both Mr. Bischoff and Peter Stone—Peter Stone in his letter in connection with the fixing of a retroactive, what he claims was a retroactive price on this lumber, confused the word "grade" as used in Section 12 there with the word "item," which hardly has the same legal significance. We claim that it does not.

Our second contention of law, "Defendant contends that a special price by the Office of Price Administration, pursuant to Section 12, after the sale and delivery of the lumber described [28] in the application, is not retroactive to or in force as of the date of the delivery." As I said before, that is one of our most important contentions.

And, third, "Defendant contends that the within action was instituted without authority, and that the Price Administrator could not legally delegate authority to institute said action to a Regional Enforcement Attorney or District Enforcement Attorney."

I don't need to elaborate that last contention, as your Honor knows what is involved there.

There is a further contention that is not put here, and that is that if it is not already covered

by one of the three I read—and perhaps it is—the provision of the statute in Section 205 (e) as amended does not authorize the Administrator to bring such an action as this. I think, as a matter of precaution, I will ask Mr. Bischoff—I will supplement our contentions of law with that. Now so far as——

The Court: What is your point on that?

Mr. McCulloch: The point in that is this——

The Court: Do you know his point?

Mr. Bischoff: No.

The Court: Are you prepared to discuss it?

Mr. McCulloch: This Section 205 (e) as amended reads:

“If any person selling a commodity violates a regulation, order or price schedule prescribing a maximum price, the person who buys such commodity for use or consumption, other than in the [29] course of trade or business, may, within one year,” and so on, bring an action.

Then down below, the same section says:

“If any person selling a commodity violates a regulation, order or price schedule prescribing a maximum price, and the buyer either fails to institute an action within thirty days, or is not entitled for any reason to bring the action, the Administrator may institute such action on behalf of the United States within such one-year period.”

The Court: That is an amendment.

Mr. McCulloch: I know it is, your Honor. My point is the legal significance of the word “such” in that last sentence, “the Administrator my insti-

tute such action". If "such", referring back to the opening sentence in the section, relates to a sale of a commodity for use or consumption other than in the course of trade or business, then obviously on the facts the Administrator can't bring this action because he has alleged that the sale by the defendant was made to John Schroeder Lumber & Supply Company in the course of trade or business as it was, because the purchaser was a wholesale and retail lumber dealer in one of the Mid-Western states.

Now I don't want to argue the point, but have I sufficiently answered your Honor's question?

The Court: I have understood that the general construction of the Act was (at the outset, that a sale like this in the trade [30] to another wholesaler was actionable by the Administrator only. That was the tenor of the rulings under the Act as originally written, leaving to the consumer the right of action where a sale was to an ultimate consumer.

Mr. McCulloch: Yes; although——

The Court: Then the statute was amended and you have just read the amendment providing that if, in the consumer type of action, within thirty days, I believe, he did not sue, the Administrator might sue, and that is the present state of the statute.

Mr. McCulloch: Yes. I——

The Court: Now, but my understanding has been, from hearing a number of these cases, that in this type of sale to one in the trade, another

wholesaler, the action has always been in the Administrator.

Mr. McCulloch: I will say this, your Honor——

The Court: Now if I understand your point, it is that this Amendment has brought about some change other than has been presented to me before.

Mr. McCulloch: No. I would say that I would raise the same point and have the same grounds for making it under the original Section 205 (e) as under the amended Section 205(e). In other words, my point is, what the word “such” means when it says, toward the end of the section, “the Administrator may bring such action”. Does it refer to the kind of action in the first part of the section that the ultimate consumer may bring? Does it refer to [31] the sale of a commodity made for use or consumption other than in the course of trade or business? Now this action here pending, on its face, is to recover treble damages for an overcharge of a commodity, lumber, sold, and alleged to be sold, in the course of trade or business. Now Judge Hall, in one of the——

The Court: Glick case.

Mr. McCulloch: In a lumber case——

The Court: Which nobody has followed.

Mr. McCulloch: I have seen it criticised in two decisions, your Honor.

The Court: There are more than that.

Mr. McCulloch: There probably may be, but if the point has no merit I don't think I will waste much time on it.

The Court: Anyhow, we have run your point down.

Mr. McCulloch: That, however, is what I had in mind.

The Court: All right. All right.

Mr. McCulloch: Now there is one thing more. When I prepared the defendant's answer in this case on October 14th of this year the provisions on the amendment of Section 205 (e) hadn't come to my attention. That contains this provision: That if the defendant proves that the violation of the regulations, order or price schedule in question was not willful, nor the result of a failure"——

The Court: Yes. You want to speak about that?

Mr. McCulloch: Either that, or I want to incorporate in the [32] pre-trial order——

The Court: Get them both.

Mr. McCulloch: Both?

The Court: Yes.

Mr. McCulloch: Then I will, with your Honor's leave——

The Court: And plead in the language of the statute.

Mr. McCulloch: I will amend in the language of the statute.

The Court: Be careful about that. Plead good faith and nonintention.

Mr. McCulloch: In the pre-trial order?

The Court: Yes.

Mr. McCulloch: I think that is all I have to say, then. Thank you.

The Court: All right. I will see you in the

morning. I want to ask you, Mr. Tongue, one thing: Are a great many more things involved in the action against the mill than these items that are being discussed?

Mr. Tongue: I will say this, your Honor: The suit against the mill involves two types of transactions. It involves one of those two types.

The Court: Is it a damage action?

Mr. Tongue: It is also a suit for treble damages, yes.

The Court: And for an injunction?

Mr. Tongue: No.

The Court: Just for damages? [33]

Mr. Tongue: That is correct. Is that not right, Mr. Bischoff?

Mr. Bischoff: Yes.

The Court: Well, how many cars are here, three?

Mr. Bischoff: Three, your Honor.

The Court: It involves those three cars?

Mr. Bischoff: Yes, your Honor.

Mr. Tongue: Yes, your Honor.

The Court: How many more cars than those three?

Mr. Tongue: Mr. Bischoff would be in a better position to say. Probably twenty cars.

Mr. Bischoff: More than that. It involves, I would say——

The Court: A number of different shipments?

Mr. Bischoff: Well, it would involve, of this class of transaction, probably fourteen, I think.

The Court: This same item?

Mr. Bischoff: Yes.

The Court: Sold through and to others?

Mr. Bischoff: All sold to Mr. Patrick.

The Court: Why didn't you sue Patrick for all of them?

Mr. Bischoff: Well, I guess we were tender-hearted, or something. I don't know. We waited around.

The Court: Did the statute of limitations have something to do with it?

Mr. Bischoff: The statute of limitations ran. We were aware of these transactions. [34]

The Court: All of the items then in the mill case were sold through Patrick?

Mr. Bischoff: Oh, no; no.

The Court: I mean items of this type?

Mr. Bischoff: Of this type.

The Court: Yes. And that was about how many cars?

Mr. Bischoff: About fourteen or sixteen cars.

Mr. Tongue: A total of fourteen.

The Court: And a total of about how many cars in Mr. Tongue's case?

Mr. Bischoff: In Mr. Tongue's case there were a total of about fourteen cars of this class, plus about eighteen or twenty cars of a second class.

The Court: About half of the cars in the case against the mill involve the same question as we have here?

Mr. Bischoff: Yes, that is correct.

The Court: Did you want to say something else?

Mr. Bischoff: There was just one minor prop-

osition. Number XI of the statement of facts, which refers to the special application having been filed by the Patrick Company on May or June of 1943, in order that we may minimize the question of proof, I would like to show Mr. Patrick a copy of a letter so we may stipulate the fact.

The Court: You state to Mr. Person what you agree about that. You can put in on the record.

Mr. Bischoff: All right.

The Court: And there is nothing more you want to say to me?

Mr. Bischoff: No, your Honor.

The Court: All right. In the morning, then, at ten o'clock.

(Thereupon, the foregoing hearing was concluded at 12:13 o'clock P. M.) [36]

[Title of District Court and Cause.]

REPORTER'S CERTIFICATE

I, Alva W. Person, hereby certify that on Monday, December 4, 1944, I reported in shorthand all of the oral proceedings had upon a pre-trial conference in the above-entitled cause before the above-entitled Court, the Honorable Claude McCulloch, Judge, presiding; that I thereafter caused my shorthand notes to be reduced to typewriting, and the foregoing and hereto attached thirty-six pages of typewritten matter, numbered 1 to 36, both inclusive, constitute a full, true and accurate

record of all of the oral proceedings had upon said pre-trial conference.

Dated at Portland, Oregon, this 6th day of December, A. D. 1944.

(Signed) ALVA. W. PERSON
Court Reporter

[Endorsed]: Filed Dec. 9, 1944.

[Title of District Court and Cause.]

Portland, Oregon, Tuesday, December 5, 1944.
10:22 o'clock A. M.

Before: Honorable Claude McCulloch,
Judge.

TRIAL PROCEEDINGS

The Court: Call a witness.

Mr. Bischoff: Do you have the answer yet, Mr. McCulloch? [1*]

Mr. William C. McCulloch: Yes. If your Honor please, pursuant to leave granted yesterday by the Court I would like at this time to tender defendant's amended answer.

The Court: Yes.

Mr. William C. McCulloch: I wish to say in this connection that I have set up in the amended answer the alleged lack of the Court's jurisdiction, based on the proposition of delegated authority

*Page numbering appearing at top of page of original Reporter's Transcript.

by the Administrator, in order to be sure to save that point.

The Court: Call your witness.

Mr. Bischoff: Mr. Jayne, please. Mr. McCulloch, do you have copies of the invoices of the Patrick Company?

Mr. William C. McCulloch: Yes.

Plaintiff's Evidence

ROGER JAYNE

was thereupon produced as a witness in behalf of the plaintiff and, having been first duly sworn, testified as follows:

Direct Examination

By Mr. Bischoff:

Q. Would you please state your name and occupation.

A. My name is Roger Jayne. I am now employed as investigator by the Office of Price Administration, Lumber Enforcement Unit.

Q. Prior to your employment by the Office of Price Administration what was your occupation?

A. Really before that I was a buyer for Patrick Lumber Company. [2]

Q. What experience have you had in the lumber business?

A. Well, I have been into the business for better than thirty years. During that time I have done everything from common labor to manager, the buyer of lumber from sawmills, and practically everything except the general manager.

(Testimony of Roger Jayne.)

Q. What sawmill did you run?

A. The last sawmill I was with was Bridge Lumber Company.

Q. What was your capacity there?

A. I was sales manager.

Q. Did you make the investigation in the Patrick Lumber Company case of three cars of lumber of scant dimension?

A. Just one portion of it.

Q. What portion was that?

A. Well, I made the original investigation where we located that car at the West Side and the final car was shipped. Beyond that I did nothing but figure up the charges, no part of the actual other investigation.

Q. Are you familiar with the grading rules of the West Coast Lumbermen's Association?

A. I think I am, sir.

Q. Have you ever been employed as a grader, yourself?

A. Yes. I had about four years with the Pacific Lumber Inspection Bureau.

Q. What is the Pacific Lumber Inspection Bureau?

A. That is an organization built up which controls the grading [3] and supervision of all the grading of lumber, particularly at that time—particularly for water-borne shipment, not so much for rail.

Q. Are you familiar with the American Lumber Standards for Softwood? A. Yes, sir.

(Testimony of Roger Jayne.)

Mr. Bischoff: At this time I would like to have introduced in evidence the Standard Grading and Dressing Rules for Douglas Fir Lumber, and the American Lumber Standards for Softwood Lumber. These two documents were stipulated as admissible in the pre-trial order. We have not reduced that order to writing yet, your Honor. We were not able to get together until late in the day yesterday.

The Court: Do you have an objection?

Mr. William C. McCulloch: No objection to this offer.

The Court: Admitted.

(The American Lumber Standards for Softwood Lumber, so offered and received, was marked Plaintiff's Exhibit 1; and the Standard Grading and Dressing Rules for Douglas Fir, etc., West Coast Bureau of Lumber Grades and Inspection, effective March 1, 1943, so offered and received, was marked Plaintiff's Exhibit 2.)

(Testimony of Roger Jayne.)

PLAINTIFF'S EXHIBIT No. 1

United States Department of Commerce

Harry Hopkins, Secretary

National Bureau of Standards

Lyman J. Briggs, Director

LUMBER

American Lumber Standards

For Soft Lumber

Simplified Practice Recommendation R16-39

[Supercedes R16-29 and Supplement]

Approved October 15, 1939

[Seal of Department of Commerce]

United States

Government Printing Office

Washington : 1940

MANUFACTURING CLASSIFICATION

104. Lumber is classified according to the extent to which it is manufactured as shown below:

Rough lumber.—Lumber undressed as it comes from the saw.

Surfaced lumber.—Lumber that is dressed by running it through a planer. It may be surfaced on one side (S1S), two sides (S2S), one edge (S1E), two edges (S2E), or on a combination of sides and edges: (S1S1E), (S2S1E), (S1S2E), or (S4S).

Worked lumber.—Lumber which has been run through a matching machine, sticker, or moulder. Worked lumber may be:

(Testimony of Roger Jayne.)

Matched lumber.—Lumber that is worked to provide a close tongue-and-groove joint at the edges or, in the case of end-matched lumber, at the ends also.

Shiplapped lumber.—Lumber that is worked to provide a close rabbetted or lapped joint at the edges.

Patterned lumber.—Worked Lumber that is shapped to a patterned or moulded form.

MAINTENANCE OF SIZE AND GRADE STANDARDS

105. The principle of responsibility of the entire organized lumber industry for the maintenance of agreed upon and published size, grade, and inspection standards is recognized, and for the suitable discharge of such responsibility the Central Committee on Lumber Standards shall be continued. In pursuance of these objectives the regional associations shall file with the Central Committee on Lumber Standards their grading rules and such amendments thereto as they may propose from time to time for review and approval as conforming to American Lumber Standards.

106. Rules for grading one or more species to provide American standard lumber as herein defined, supplemented with the applicable lumber inspection, shipping, and general provisions, may be published by any association of manufacturers having adequate facilities for mill and claim inspection, as conforming to American Lumber Stand-

(Testimony of Roger Jayne.)

ards, after their conformity to the requirements of these standards shall have been determined by the Central Committee on Lumber Standards.

107. So far as it is within their power, the associations within the lumber industry shall undertake, through association grades and inspection service, arbitration, and, if practicable, through grade marking and otherwise, to maintain for the benefit of the lumber-using public the standards of size and basic grade names and classifications as agreed upon and as published in the association grading and inspection rules.

108. The associations which make grading rules and conduct lumber inspection service shall maintain such size, grade, and inspection standards as may have been agreed to.

109. Each such association shall assume responsibility for the maintenance, in the manner herein outlined, by its individual members or subscribers, of said size standards, basic grade classifications, and inspection standards.

110. The formulation of regulations for the conduct of inspection to procure the application of the grading rules published by lumber associations, and the administration, supervision, and conduct of inspection service, shall be exclusively by the lumber industry.

GRADE MARKING

111. The principle and practice of grade marking lumber are approved.

(Testimony of Roger Jayne.)

112. The grade marking of each species of lumber shall be under the supervision, including regular grading supervision at the mills, of the regional manufacturers' association responsible for the formulation and maintenance of grading standards for each species.

All pieces or bundles of a given grade shall be grade marked (except that unavoidable mechanical skips are allowed).

An easily distinguishable mark or insignia, copyrighted and symbolizing association grading supervision and the American Lumber Standards, shall be used in conjunction with the grade mark for each species of lumber. Such marks shall be available to those mills which are able to prove their efficiency in grading according to the rules of the regional manufacturers' association and which agree to maintain the established standards of size and grade and to submit their lumber products to official association inspection, both at the mill and upon complaint at destination. The grade as marked shall signify that the lumber conforms to the grade specification of the rules under which it is graded.

An easily distinguishable, copyrighted, and nationally uniform mark, to be provided by the Central Committee on Lumber Standards, shall be available under such equitable conditions as the committee may determine for use in conjunction with regional manufacturers' association grade marks to identify American standard lumber.

(Testimony of Roger Jayne.)

Each regional manufacturers' association shall maintain a bona fide supervisory inspection service, under which each mill authorized to use the copyrighted association symbol in conjunction with the grade mark will be checked regularly as to grading efficiency, and conformity to all the established rules for grade marking.

In pursuance of the responsibility of the Central Committee on Lumber Standards to maintain the American Lumber Standards, each regional manufacturers' association shall submit its procedure with respect to grade marking to the committee for approval.

113. In order to encourage the maintenance of standard sizes as agreed to, lumber manufactured and sold as standard, if grade marked, shall be marked by an appropriate brand or insignia to indicate that it is of standard size.

GENERAL GRADING RULE PROVISIONS

Size and Grade

114. To the extent to which differences in the characteristics of species in quality of logs, in conditions of manufacture, and in the uses to which the product is put, will, in practical application, permit, the basic provisions for the grading of lumber shall be uniform.

115. Lumber not conforming to standard sizes or grades and that intended for special uses shall be covered by special contract and inspection.

116. The characteristics and limitations in any

(Testimony of Roger Jayne.)

grade or species vary as to the area of the piece to be graded increases or diminishes with respect to the basic size or area specified, but their size shall not exceed that permitted in the respective grading rules.

117. Whenever any characteristics other than those defined in regional association grading rules are encountered, they shall be regarded as equivalent (equal) to permitted characteristics or prescribed limitations in proportion to their effect on the strength, appearance, or other utility value of the piece in the grade under consideration.

118. Characteristics permitted and limitations prescribed in rough lumber shall be the same as those applying to dressed lumber of like kind and grade, and, in addition, such others as will disappear in dressing such lumber to standard sizes shall be allowed.

119. Mixed grades, other than the two highest recognized grades for each species, not specifying the proportion of each grade, are not American standard grades.

120. Specifications dealing with lumber seasoning and moisture content shall be developed by each regional manufacturers' association in accordance with its own conditions and the requirements of the users of its products. Such specifications adopted from time to time by any regional association shall be filed with the Central Committee on Lumber Standards for approval. Each association publishing grade rules shall include definitions of any

(Testimony of Roger Jayne.)

terms used therein to describe condition of seasoning, such as air dry, kiln dry, shipping dry.

121. In addition to meeting its grade specifications, lumber shipped shall conform to such grain, heartwood, sapwood, moisture content, or other specifications as may have been agreed to in the contract of purchase and sale.

Description, Measurement, and Tally

122. To be standard, lumber shall be described by the thicknesses and widths specified in paragraphs 209, 304, and 402. Lumber of other sizes shall be considered special.

123. The dressed dimensions specified in paragraphs 209 and 304 shall apply to lumber in the condition of seasoning as sold and shipped.

124. Board measure is the term used to indicate that a board foot is the unit of measurement of lumber. A board foot is the quantity of lumber contained in, or derived from, by drying, planing, or working, or by any combination of these means, a piece of rough green lumber 1 inch thick, 12 inches wide, and 1 foot long, or its equivalent in thicker, wider, narrower, or longer lumber.

125. Except moulding, which shall be tallied in linear feet, lumber shall be tallied board measure. The measurement of rough dry or dressed lumber shall be based on the corresponding nominal dimensions of rough green lumber. The measurement of lumber of thickness less than 1 inch shall be based on the surface dimensions; i. e., width and length.

126. To determine the board-foot contents of

(Testimony of Roger Jayne.)

lumber thicker than 1 inch, the surface measure shall be multiplied by the nominal thickness in inches and fractions of an inch.

127. Lumber finished to special size shall be tallied as of the standard rough size necessarily used in its manufacture.

128. Lumber of stock sizes shall be tallied by the number of pieces of each size and length in the shipment.

129. Lumber shipped on the basis of board measure shall be tallied by the number of pieces and of board feet in each piece.

General Provisions

202. The rules for yard lumber shall prescribe the number, extent, and limitations of the characteristics permitted in the poorest pieces admissible in each grade. A grade shall be representative, however, and shall not comprise only low-line pieces.

203. Except in dimension and timbers, the grade of yard lumber, rough or surfaced two sides, shall be determined from the better or face side of the piece, and lumber which is surfaced one side only shall be graded from the surfaced-side.

204. The grading of lumber cannot be considered an exact science, because it is based on a visual inspection of each piece and on the judgment of the grader. Grading rules, however, shall be sufficiently explicit to establish 5 percent below grade as a reasonable variation between graders.

(Testimony of Roger Jayne.)

SIZE STANDARDS

Dressed Sizes

205. The terms "standard yard board" and "standard industrial board", and "standard yard dimension" and "standard industrial dimension" shall be the designations for 1-inch boards and 2-inch dimension, respectively.

206. 25/32 inch, S1S or S2S, shall be the minimum thickness for the standard yard board; 26/32 inch, S1S or S2S, for the standard industrial board.

207. 1-5/8 inches, S1S or S2S, shall be the minimum thickness for standard yard dimension not more than 12 inches wide; 1-3/4 inches, S1S or S2S, for standard industrial dimension.

208. The minimum finished widths of finish S1E or S2E shall be 3/8 inch off on lumber of standard width of 3 inches; the finished widths of finish S1E or S2E shall be 1/2 inch off on lumber of standard widths of 4 to 7 inches, inclusive, and 3/4 inch off on lumber of standard widths of 8 to 12 inches, inclusive; and the finished widths of strips, boards and dimension S1E or S2E shall be 3/8 inch off on lumber of standard widths less than 8 inches, and 1/2 inch off on lumber of standard widths of 8 to 12 inches.

209. The minimum thickness and widths of finished lumber, S1S, S2S, S-E, S2E, or any combination thereof, shall be as follows:

(Testimony of Roger Jayne.)

Strips, boards, and dimension

(The thicknesses apply to all widths and the widths
to all thicknesses)

Product	Thickness			Width	
	Board measure	Minimum dressed dimensions		Board measure	Minimum dressed dimen- sions— standard
		Yard standard	Industrial standard		
	Inches	Inches	Inches	Inches	Inches
Finish .....	.....	5/16	.....	3	2-5/8
	.....	7/16	.....	4	3-1/2
	.....	9/16	.....	5	4-1/2
	.....	11/16	.....	6	5-1/2
	1	25/32	26/32	7	6-1/2
	1-1/4	1-1/16	.....	8	7-1/4
	1-1/2	1-5/16	.....	9	8-1/4
	1-3/4	1-7/16	.....	10	9-1/4
	2	1-5/8	1-6/8	11	10-1/4
	2-1/2	2-1/8	.....	12	11-1/4
Common: Strips and boards	3	2-5/8	.....	.....	.....
	1	25/32	26/32	3	2-5/8
	1-1/4	1-1/16	.....	4	3-5/8
	1-1/2	1-5/16	.....	5	4-5/8
	.....	.....	.....	6	5-5/8
	.....	.....	.....	7	6-5/8
	.....	.....	.....	8	7-1/2
	.....	.....	.....	9	8-1/2
	.....	.....	.....	10	9-1/2
	.....	.....	.....	11	10-1/2
	.....	.....	.....	12	11-1/2
Dimension	2	1-5/8	1-6/8	2	1-5/8
	2-1/2	2-1/8	.....	4	3-5/8
	3	2-5/8	.....	6	5-5/8
	4	3-5/8	.....	8	7-1/2
	.....	.....	.....	10	9-1/2
	.....	.....	.....	12	11-1/2

(Testimony of Roger Jayne.)

Mr. Bischoff: If the Court please, we are going to ask leave to withdraw the copy of Lumber Standards and substitute in its [4] place a photostatic copy of the pages which become pertinent here.

The Court: That is satisfactory.

Mr. Bischoff: At this time, may it please the Court, I offer in evidence three invoices of the Patrick Lumber Company, which, by stipulation, are taken as admissible.

The Court: Admitted.

(The invoice of Patrick Lumber Company dated October 7, 1943, to John Schroeder Lumber & Supply Company, so offered and received, was marked Plaintiff's Exhibit 3; the invoice of Patrick Lumber Company dated September 16, 1943, to John Schroeder Lumber & Supply Company, so offered and received, was marked Plaintiff's Exhibit 4; and the invoice of Patrick Lumber Company dated September 3, 1943, to John Schroeder Lumber & Supply Company, so offered and received, was marked Plaintiff's Exhibit 5.)

(Testimony of Roger Jayne.)

PLANTIFF'S EXHIBIT No. 3

Invoice

PATRICK LUMBER CO.
Terminal Sales Building
Portland 5, Oregon

October 7, 1943

Sold to: John Schroeder Lumber & Supply Co.,
306 E. Walnut Street
Milwaukee, Wisconsin

Order No.: 8358
Your No.:
F.O.B.: 75½¢ rate
Car No.: Wab 45712
Route: SP GN MinnTfr
CMStP&P

Ship to: Same

Terms: Less 4% and 2% A/D 5 days

DOUGLAS FIR S1S H&M to 1½" S2E to Std GREEN

SEL STR	2x4	2/6 8/8 1/10 32/12 8/14 11/16 1/18 7/20 3/22	651' 44	\$50.50 54.00	\$32.88 2.38
	2x6	2/6 7/8 3/10 16/12 9/14 11/16 7/18 1/20	738	51.25	37.82
	2x8	1/8 3/10 22/12 6/14 8/16 3/18 1/20	784	50.25	39.40
	2x4	9/6 31/8 22/10 67/12 18/14 30/16 5/18 9/20	1552	48.50	75.27
	2x6	4/6 2/8 6/10 27/12 10/14 16/16 3/18 4/20 1/24	954 24	49.25 51.75	46.98 1.24
	2x8	1/6 7/8 4/10 51/12 11/14 15/16 7/18 7/20	1832	48.25	88.39
PAR 215	2x4	8/6 35/8 31/10 124/12 56/14 96/16 30/18 32/20 12/22 4/24	3751 240	47.50 51.00	178.17 12.24
	2x6	3/6 1/8 7/10 59/12 28/14 45/16 29/18 4/20 3/22 4/24	2518 162	48.25 50.75	121.49 8.22
	2x8	7/6 17/8 35/10 95/12 35/14 44/16 24/18 18/20	4872	47.25	230.20
	2x4	7/6 43/8 36/10 135/12 47/14 77/16 29/18 48/20 7/22 3/24	3825 151	43.50 47.00	166.39 7.10
#2 COM	2x6	7/10 82/12 33/14 45/16 15/18 10/20 2/22 1/24	2706 68	44.25 46.75	119.74 3.18
	2x8	8/6 22/8 72/10 270/12 67/14 111/16 60/18 84/20	12877	43.25	556.93
			37749'		\$1728.02

The lumber covered by this invoice, unless otherwise shown on order is sold on standard grades of West Coast Lumbermen's Association.

If the buyer shall pay by check, draft, note, or any other mode than cash, such payment shall be deemed conditional and for the convenience of the buyer, and shall not be deemed a payment until cash or solvent credit shall have been received and accepted by the seller at its home office.

The seller, may for the purpose of facilitating collection, deposit any such check or instrument in any bank for collection and such bank, and or other banks acting in any capacity in such collection shall be considered the agent of the buyer and may forward such check or instrument direct to the bank at or by which it is payable, and may accept payment in exchange upon any solvent bank.

(Testimony of Roger Jayne.)

PLAINTIFF'S EXHIBIT No. 4

Invoice

PATRICK LUMBER CO.
Terminal Sales Building
Portland 5, Oregon

September 16, 1943

Sold to: John Schroeder Lumber & Supply Co.
306 E. Walnut Street
Milwaukee, Wisconsin

Order No.: 8358
Your No.
F.O.B.: 75½c Rate
Car No.: NP 12494
Route: SP GN MINN TFR
CMStP&P

Ship to: Same

Terms: 4% and 2% 5 days after arrival, 60 days net

DOUGLAS FIR SIS H&M TO 1½ S2E STD. GREEN

SEL STR	2x4	2/8 2/10 7/12 2/14 7/16 1/18 6/20	265'	\$50.50	\$13.38
	2x6	1/8 17/12 5/16 1/20	312	51.25	15.99
		1/22	22	53.75	1.18
	2x8	1/8 3/10 28/12 8/14 9/16 8/18 2/20	1085	50.25	54.52
		2/22 2/24	123	52.25	6.43
SEL MER	2x4	5/8 1/10 27/12 7/14 12/16 4/18 9/20	611	48.50	29.63
		1/22	15	52.00	.78
	2x6	1/8 1/10 39/12 6/14 17/16 5/18	932	49.25	45.90
		2/22	44	51.75	2.28
SEL MER	2x8	5/8 5/10 68/12 22/14 18/16 20/18 10/20	2749	48.25	132.64
		5/22 3/24	243	50.25	12.21
PAR 215	2x4	7/8 7/10 70/12 15/14 34/16 10/18 13/20	1440	47.50	68.40
		11/22 3/24	209	51.00	10.66
	2x6	4/8 7/10 51/12 16/14 43/16 9/18 7/20	1928	48.25	93.03
		5/22 1/24	134	50.75	6.80
	2x8	2/6 12/8 15/10 152/12 74/14 65/16 53/18 26/20	7509	47.25	354.80
		15/22 7/24	664	49.25	32.70
#2 COM	2x4	8/8 8/10 110/12 30/14 70/16 14/18 15/20	2371	43.50	103.14
		12/22	176	47.00	8.27
	2x6	3/8 1/10 76/12 31/14 57/16 22/18 9/20	2868	44.25	126.91
		14/22 5/24	428	46.75	20.01
	2x8	5/6 19/8 38/10 287/12 95/14 109/16 57/18 54/20	12248	43.25	529.73
		27/22 20/24	1432	45.25	64.80
			37808'		\$1734.19

The lumber covered by this invoice, unless otherwise shown on order is sold on standard grades of West Coast Lumbermen's Association.

If the buyer shall pay by check, draft, note, or any other mode than cash, such payment shall be deemed conditional and for the convenience of the buyer, and shall not be deemed a payment until cash or solvent credit shall have been received and accepted by the seller at its home office.

The seller, may for the purpose of facilitating collection, deposit any such check or instrument in any bank for collection and such bank and/or other banks acting in any capacity in such collection shall be considered the agent of the buyer and may forward such check or instrument direct to the bank at or by which it is payable, and may accept payment in exchange upon any solvent bank.

(Testimony of Roger Jayne.)

PLAINTIFF'S EXHIBIT No. 5

Invoice

PATRICK LUMBER CO.
Terminal Sales Building
Portland 5, Oregon

September 3, 1943

Sold to: John Schroeder Lumber & Supply Co.
306 E. Walnut Street
Milwaukee, Wisconsin

Ship to: Same

Terms: 4% and 2% 5 days after arrival,
60 days net, ADF

Order No.: 8358

Your No.

F.O.B.: 75½¢ Rate

Car No.: NP 17862

Route: SP GN MINN TFR

CMS:P&P

DOUGLAS FIR S1S TO 1½" H&M S2E STD. GREEN

SEL STR	2x4	2/8	8/10	9/12	6/14	4/16	1/18	1/20	260'	\$50.50	\$13.13
		2/22							29	54.00	1.57
	2x6	1/6	1/8	5/10	5/12	2/14	2/16	1/18	202	51.25	10.35
	2x8	3/6	9/8	10/10	39/12	16/14	16/16	2/18	1592	50.25	80.00
		6/22	3/24						272	52.25	14.21
	2x4	5/8	2/10	12/12	12/14	9/16	2/18	2/20	395	48.50	19.16
SEL MER	2x4	6/22							88	52.00	4.58
		2x6	8/8	9/10	19/12	6/14	6/16	1/18	3/20	640	49.25	31.52
	2/22							44	51.75	2.28	
SEL MER	2x8	4/6	20/8	23/10	125/12	49/14	57/16	13/18	5235	48.25	252.59
		8/22	5/24						395	50.25	19.85
	2x4	5/8	5/10	30/12	13/14	27/16	4/18	8/20	864	47.50	41.04
PAR 215	2x4	4/22	1/24						75	51.00	3.83
		2x6	7/8	7/10	26/12	20/14	34/16	8/18	3/20	1466	48.25	70.73
	11/22							242	50.75	12.28	
	2x8	4/6	20/8	16/10	194/12	90/14	145/16	58/18	10715	47.25	506.28
		41/22	19/24						1811	49.25	89.19
	2x4	5/8	11/10	28/12	25/14	21/16	9/18	8/20	996	43.50	43.33
#2 COM	2x4	11/22	2/24						193	47.00	9.07
		2x6	2/8	3/10	37/12	5/14	19/16	2/18	1/20	920	44.25
	4/22							88	46.75	4.11	
	2x8	16/8	19/10	221/12	69/14	101/16	44/18	34/20	9365	43.25	405.04
		58/22	36/24						2853	45.25	129.10
									38740'		\$1803.95

The lumber covered by this invoice, unless otherwise shown on order is sold on standard grades of West Coast Lumbermen's Association

If the buyer shall pay by check, draft, note, or any other mode than cash, such payment shall be deemed conditional and for the convenience of the buyer, and shall not be deemed a payment until cash or solvent credit shall have been received and accepted by the seller at its home office

The seller may, for the purpose of facilitating collection, deposit any such check or instrument in any bank for collection and such bank and or other banks acting in any capacity in such collection shall be considered the agent of the buyer and may forward such check or instrument direct to the bank at or by which it is payable, and may accept payment in exchange upon any solvent bank.

(Testimony of Roger Jayne.)

The Court: How many exhibits do you have?

Mr. Bischoff: Very few.

The Court: Put them in en masse and have them all marked the same as at pre-trial.

Mr. Bischoff: We denominated the exhibit numbers in the draft of pre-trial order, and I think if we keep those numbers it will be easier for the record. [5]

The Court: That is the way it is always done. Put in all the exhibits on both sides, and later you can get them marked, Mr. Person. He will give them the same numbers as at pre-trial. Go on.

Mr. Bischoff: Q. I would like to call your attention to the invoices from Patrick Lumber Company to the Schroeder Lumber Company which have been introduced in evidence.

Mr. Howard T. McCulloch: If the Court please, mony is objected to on the ground—the lack of jurisdiction the record might show all of this testimony is objected to on the ground—the lack of jurisdiction for the Court to try this case, without repeating it.

The Court: It will be received subject to that objection.

Mr. Bischoff: Could I ask you to hand the copies of the invoices to Mr. Jayne, and the two exhibits that you have, the grading rules.

Q. I call you attention to the description of the lumber contained in those invoices; that is, Douglas Fir Lumber S1S to 1½ inches, hit and miss, S2E,

(Testimony of Roger Jayne.)

standard green. Will you please tell the Court what that nomenclature means.

The Court: How does he know what it means? He didn't write the invoices.

Mr. Bischoff: Q. Are you familiar with the language in that description?

A. It is ordinary language, used in all invoicing. [6]

Q. Is that common language used daily in the lumber trade?

A. All except the one inch and a half. That is the only thing that is different from the ordinary lumber trade.

Q. What I mean is, are the terms standard terms?

A. Well, they are standard terms.

Q. Would you please tell the Court what those terms mean in the trade?

A. What they mean is, this lumber has been surfaced to one and one-half inch in thickness, and that in turn has been surfaced, the two edges have been surfaced to the standard, American Lumber Standards, and the hit and miss, H&M there, is the ordinary term for hit and miss when there would be a few skips in the surfacing of the piece.

Q. What does the term S1S mean?

A. Surfaced one side.

Q. And S2E?

A. Surfaced two edges—surfaces.

A. And the term standard—"Str"?

(Testimony of Roger Jayne.)

A. That means what is specified in all the grading rules as to what is standard practice.

Q. On the invoices there are the terms select structural, select merchantable—rather, they are abbreviated terms, “SEL”, then the abbreviation “STR”, then “SEL MER”.

A. First is an abbreviation for select structural, the second is select merchantable, the third one is paragraph 215; the fourth [7] one is No. 2 common.

Q. Now to what do these terms refer?

A. They refer to the regular grades in your regular grading rules. They are standard grades.

Q. By the regular grading rules, you mean Exhibit No. what?

A. The same as we have here in this Number 12. It does not mention those in this particular one, but those are standards of all shipping contracts.

Q. What are the exhibit numbers on that document you hold up?

A. Exhibit No. 2.

Q. Do you know whether or not there is contained in Exhibit No. 2 a description of any item of lumber which is surfaced one side to one and a half inches hit and miss, surfaced two edges?

A. No, there is nothing in the rules calling for that at all. That is what we call a special grain, substandard; there are various phrases that are used in that connection. It is not a standard surfacing.

Mr. Howard T. McCulloch: If the Court please,

(Testimony of Roger Jayne.)

I object to that answer as not being responsive to the question.

The Court: It may stand.

Mr. Bischoff: Would you please refer to the paragraph of the grading rules which defines standard thicknesses. Give the page reference.

A. I will have to look a little.

Q. You will find it in the rear of the book, just alongside of [8] the abbreviations.

A. Well, on page 142 the standard thickness for dimension here is mentioned as inch and five-eighths.

Q. Is that surfaced or rough?

A. Surfaced one side or two sides, S1S or S2S. That is the thickness.

Q. Is that clean surfacing?

A. Well, that is permitted in the rules.

Q. What is the rough width——

A. Nominal.

Q. ——on dimension lumber?

A. Well, it is always on the even 2 inches.

Q. Is that what the rule provides?

A. Yes, it is here, nominal width.

Q. What page of the rules is that on?

A. Page 142.

Q. Please refer to the American Lumber Standards, the section on standard widths and thicknesses for dimension lumber.

A. On page 9, 2-inch dimension, it is to be surfaced what is called the yard standard.

Q. Would you please speak a little louder?

(Testimony of Roger Jayne.)

A. On page 9 of Exhibit 1, 2-inch dimension is to be inch and five-eighths.

Q. Do you know whether or not, Mr. Jayne, that dimension lumber surfaced to $1\frac{1}{2}$ inches one side only is commonly known as [9] scant dimension?

A. That is the usual term.

Q. Is that lumber accepted for building standards by the FHA, for example, as standard lumber?

Mr. Howard T. McCulloch: Now if the Court please, I object to that. The witness is not qualified to answer—is not shown to be qualified—as to whether it is or is not accepted by the Federal Housing Administration, for example.

The Court: He may answer, subject to the objection. Go ahead.

A. I am not qualified. I don't know whether—I have heard that, but I do not know directly it has been. I have had lots of conversations with men on the West Coast. Whether they have——

The Court: Well, that is out. Stricken.

Mr. Bischoff: I believe that we have an agreement, Mr. McCulloch, that the arithmetic of the overcharges as set forth in the complaint is stipulated as correct and there is no need to examine this witness on the method of arriving at the——

Mr. Howard T. McCulloch: Alleged overcharges?

Mr. Bischoff: Yes.

Mr. William C. McCulloch: That is correct, your Honor.

Mr. Bischoff: That is all.

(Testimony of Roger Jayne.)

Mr. Howard T. McCulloch: No cross examination.

The Court: Now you might tell me what you claim for the testimony of each witness. Sum it up. [10]

Mr. Bischoff: The summary to this is that the item sold is a special item, which is not within the meaning of the definition of standard dimension lumber either under the Grading rules, the American Lumber Standards, or trade practice. It is a special item, non-standard, and then at the time of argument we will develop the argument from the rules themselves.

The Court: Well, how about this distinction between an "item" and "grade" that was discussed yesterday?

Mr. Bischoff: Oh.

Q. Mr. Jayne, will you please indicate whether or not the term "grade", or indicate what the term "grade" denotes. Does it indicate quality only, or does it indicate quality in relation to a specific item?

A. In all the years I have been in lumber every grade is based on the number of defects allowed according to the size. In other words, you will have a certain size defect, a certain size knot as specified. If it is a 2 by 4 I think it is inch and a half. No. 1 common, 2 by 12 will take 2 to 2½ to 3 inch knot. I have never graded lumber except the grade of No. 1 clear. Every basis and part of the grade is the size of the piece.

(Testimony of Roger Jayne.)

Q. Now are the rules in the book set up with relation to the specific sizes and classes of lumber?

A. Particularly in all your clear construction lumber. The revised—the grades have been brought up for the last ten years, so that each and every grade specifies distinctly the size. [11]

The Court: What kind of lumber was this?

Mr. Bischoff: Fir; Douglas Fir.

The Witness: You are referring to my construction lumber?

The Court: What kind of lumber was this in these invoices?

A. This is what they call construction lumber.

The Court: What kind of lumber was it?

A. Douglas Fir Lumber.

The Court: How many grades of Douglas Fir lumber are there, about how many?

A. Well, the common grades alone, there are eight grades.

The Court: About how many are there altogether?

A. Well, we would be probably told, without the special grades, in the ordinary sense of the word about fifteen grades.

The Court: A great many more in pine?

A. Yes, sir; very many. Pine is much more refined than fir.

The Court: Probably be ten times as many in pine?

A. I am not familiar enough with pine to answer that question.

(Testimony of Roger Jayne.)

The Court: Is this common lumber?

A. This is common lumber.

The Court: There are five grades in common?

A. No. There are about seven or eight. It runs from No. 2 up, and select structural, and there are a number of grades.

The Court: What grade was this in the shipment?

A. The shipment here is specified select structural, select merch, Paragraph 215, No. 2 common; and all three invoices are identical [12] on the grades.

The Court: Now what is your point, Mr. Bischoff? What is your point that there was no ceiling price ascertainable at the time of the shipment?

Mr. Bischoff: Well, that will be developed in the argument. The point on this case is that the price regulation itself, which sets up tables, for various items as dollars and cents prices, when for the standard items of lumber they are defined in the grading rules, as, for example, standard common grade, standard clears, various sizes and the like. Then in addition the price regulation has a provision for extra workings; as, for example, if a piece is to be center matched, or run with a bevel edge, or if it is a special length, and so on, it is provided for a price in addition, but there is no provision in R.M.P.R. Rule 26 for an item other than a standard item.

(Testimony of Roger Jayne.)

The Court: Was there a price for all of the seven grades of common lumber in fir?

Mr. Bischoff: Yes, sir.

The Court: And this is not one of them?

Mr. Bischoff: It is not.

The Court: He has not said that, has he?

Mr. Bischoff: No, he has not.

The Court: He said the contrary, didn't he?

Mr. Bischoff: No, I don't believe so. I don't believe he said anything on that subject. He has discussed only what has [13] been in the grading rules and in the American Softwood Standards, but not what goes in the price tables.

Q. Mr. Jayne, I hand you a copy of R.M.P.R. 26 and ask you to state what this is.

The Court: Well, just a minute now. These were billed as certain grades of lumber known to the trade?

Mr. Bischoff: That is correct.

The Court: But you say they were not up to the billing?

Mr. Bischoff: No, we are not making that claim here. This lumber was billed out as a specific grade, we will say No. 1 common, for example, dimension lumber, surfaced to $1\frac{1}{2}$ inches, surfaced one side only. Now the grading rules define dimension lumber in terms of either rough dimension or surfaced dimension, on certain standards and to certain widths and to certain thicknesses. The term No. 1 common, 2 by 4, for example, in the grading rules mean a 2 by 4 which is $1\frac{5}{8}$ in thickness, sur-

(Testimony of Roger Jayne.)

faced by the standard width and of a quality with so many knots or pitch pickets, and stress and strain requirements, and so on, but there is nothing in the rule book which described an item of lumber which is surfaced to $1\frac{1}{2}$ inches of dimension quality. It is just an unknown item. There just isn't such a bird and it does not appear in the rule book.

Now the price regulation which we are tendering has a table for dimension lumber. It says the price of No. 1 common dimension lumber, for example, random width, may be \$28.50 per thousand; then it will say for select merch, or for select structural, certain additions may be made, or if the grade is dropped to No. 2 the price is lowered. Then it has specifications for length. And that table is applicable only to standard dimension lumber. There is no possible way of figuring the price of any non-standard item from that table, except in the case of some special working which a customer might order. And we argue from that, that since that table does not cover the item it is necessary to file a special application for a price.

Now these tables—it might be a good idea for your Honor to take a look at any one of them at this time—are set up in dollars and cents terms for grades of standard items, but they don't deal with anything except the standard item and the regulation itself makes reference to and incorporates within the regulation the grading rules by

(Testimony of Roger Jayne.)

number, and which are based upon the American Softwood Standards.

The Court: Mr. McCulloch, are you going to have the people here that figured the ceiling price on this shipment for Mr. Patrick? Are you going to have the people here that did that?

Mr. Howard T. McCulloch: It is my impression that Mr. Patrick, from what he said yesterday, figured those himself, with some of his associates.

Mr. Patrick: No. I checked it. I didn't figure it.

Mr. Howard T. McCulloch: I see. That is as far as I know we are going. [15]

The Court: Can you talk as technically about this as Mr. Bischoff can, or, if you can, tell me your side now.

Mr. Patrick: Yes, I can.

The Court: Maybe you can.

Mr. Howard T. McCulloch: I would like to ask the witness a question or two. I will go as far as I can. If I don't know I will say so.

The Court: Go ahead and finish, Mr. Bischoff.

Mr. Bischoff: I would like to hand to your Honor a copy of R.M.P.R. 26 so you can follow this along, if you would like to see it.

The Court: I don't want to see it now.

Mr. Bischoff: Q. Mr. Jayne, please refer to Table 2 covering dimension lumber.

The Court: Have you and your side known what they are going to claim about this?

(Testimony of Roger Jayne.)

Mr. Howard T. McCulloch: Yes, sir, your Honor.

Mr. Bischoff: Q. Do you notice the heading to that table, "No. 1 Green, Rough, or surfaced 4 sides, A.L.S."? Now what does "A.L.S." mean?

A. American Lumber Standards.

Q. Then underneath there is a horizontal column of figures, the first of which reads "6 to 20 feet," and then following that are figures, 6 feet, 8 feet, 9 feet, 10 feet, 12 feet, and so on. Will you please indicate what those figures mean? [16]

A. The first figures of 6 to 20 is random length shipment. Those figures are headings, 6, 8, 9, 10, 12, and so forth. If you have the specified lengths in an order calling for a certain number of pieces it would be priced upon those prices set in those columns.

Q. Underneath that horizontal column is a series of figures reading as follows: 2 by 2; 2 by 3; 2 by 4; 2 by 6; 2 by 8, and so on. What does that series refer to?

A. That refers to the size lumber that it is possible to be shipped.

Q. That is, are those the sizes within the dimension class?

A. They are. They are dimension sizes.

Q. Opposite those classes there are dollar and cents figures. What are those?

A. That is figuring out the relative valuation of each size and each length throughout.

(Testimony of Roger Jayne.)

Q. By relative valuation, you mean the price, the ceiling price?

A. Yes, the price; the price value.

Q. Now underneath this table is a series of notes headed "Grades." What is the significance of that series of notes?

A. You take the first, your table is set for No. 1 common dimension, and when they come down and refer to grades they refer to the additions or deductions which are to be made from the No. 1 common that is shipped.

Q. Now following that is another group of notes headed "Lengths." [17] What is the significance of that group of notes?

A. I don't follow you.

Q. Underneath the grade heading is the length provision.

A. Your question is not clear.

Q. Following the group of notes under the heading "Grades" is another heading called "Lengths."

A. Oh, yes. That is my mistake.

Q. In that heading there is a group of notes dealing with various lengths. What is the significance of that?

A. Well, the significance of that, if certain lengths are left out to make a shipment more valuable the shipper—the seller is permitted to add so much more to his price—the prices which are listed in the above tables.

Q. In other words, if the seller furnishes—by this note it is provided if the seller furnishes a

(Testimony of Roger Jayne.)

more valuable product because of specified lengths, or expense of sorting, and so on, he gets a little more in addition? A. He gets more.

Q. Then following that provision there is a group of notes entitled "Widths." Is that substantially the same character?

A. That is the same character.

Q. Then following that group is a note entitled "Thicknesses," dealing with fractional thicknesses. What is the significance of that paragraph?

A. Well, that particular paragraph there refers entirely to the [18] lumber which is between the two tables, between Table 3 and Table 2. Table 2 only covers 2-inch dimension. There are times when there are other fractional sizes ordered between the 2-inch and 3-inch table, and those provisions there are to provide for that extra service, extra value of the purchase given.

Q. In summary, if somebody wants to buy an item thicker than standard plank, the seller is entitled to get a little more money for it because of the fractional size, and this is the method of computing the price? A. That is the formula.

Q. The next heading is entitled "Working Charges." What is the significance of those notes?

A. These notes there, if it is surfaced a quarter off, which means it is above the American Lumber Standards calling for war lumber, there is a higher price for that item. The second covers industrial lumber, which is also a little heavier surfaced, calls

(Testimony of Roger Jayne.)

for more material and therefore is higher; a premium, a higher price can be charged for it.

The Court: What do you claim, Mr. Bischoff, distinguished these shipments?

Mr. Bischoff: We claim that there is not any method of pricing the item that was shipped from this table, or the notes; that there is just no method of figuring this.

The Court: Why? On account of thickness, width, or what?

Mr. Bischoff: Because of the substandard thickness. [19]

The Court: That is the point, is it?

Mr. Bischoff: That is the point.

The Court: Substandard thickness?

Mr. Bischoff: That is right.

The Court: And what was the thickness of this shipment?

Mr. Bischoff: One and a half inches, surfaced one side.

The Court: What is the listing of the OPA?

Mr. Bischoff: One and five-eighths, surfaced four sides.

The Court: Do you make some claim about the difference in the surfacing, too?

Mr. Bischoff: Oh, yes.

The Court: You claim two distinguishing characteristics take this out of the listing of the OPA?

Mr. Bischoff: That is correct.

The Court: One is surfaced on one side, and its width was scant?

(Testimony of Roger Jayne.)

Mr. Bischoff: Yes.

Mr. Howard T. McCulloch: Thickness, your Honor.

The Court: How?

Mr. Howard T. McCulloch: Thickness.

The Court: Thickness.

Mr. Bischoff: Q. Mr. Jayne, assuming that you wished to surface this piece of lumber which is surfaced one side and is one and a half inches thick and you wish to surface the other side so that you would have a piece surfaced four sides, how [20] much additional thickness would it be necessary to take off the piece?

A. You have already got one side surfaced?

Q. Yes.

A. Normal allowances would be one-eighth. That is what we figure on remanufacture. We figure we have to have an eighth.

Q. Under the rules which you have referred to, how much is the difference between nominal rough thickness and the net thickness of $1\frac{5}{8}$ thickness of dimension lumber?

A. Nominal we figure 2 inches.

Q. So there is a difference of three-eighths?

A. Three-eighths of an inch.

Q. Do you happen to know the source of this material, what it was made from?

A. Well, no, I do not know definitely.

Q. Mr. Jayne, can you tell the Court the significance of the use of American Lumber Standards in

(Testimony of Roger Jayne.)

their application to the building trade and how they are used by architects and engineers?

A. Why, they are made up as a set of what we call American Lumber Standards, which not only influences the rough lumber and the lumber we ship from here but in making up those standards that is all correlated into the framing and sash and doors and all parts of the construction, ordinary home construction, and each district—there are two of them, two different specific classes; one uses a quarter off and all the doorjambs, doors and everything [21] are fit to that standard. Then the bulk of the rail trade is based upon what we call three-eighths of an inch off,—an inch and five-eighths standard and three-eighths off. But everything, all construction, is made to conform throughout to the American Lumber Standards.

Q. Well, is it customary for the architect and engineers to figure stresses and strains as well as the supposed requirements on the basis of the American Lumber Standards?

Mr. Howard T. McCulloch: I object to that. I don't think the witness is qualified.

The Court: He may answer subject to the objection.

A. On practically all jobs there is consultation of the architects as to what is the proper strength to put into that particular construction.

Mr. Bischoff: Q. But in arriving at the specifications which should be used in a particular build-

(Testimony of Roger Jayne.)

ing, are those based upon standards fixed by American Lumber Standards?

A. Yes, they are based upon that.

Q. From your thirty years of experience in selling lumber, would you say that dimension lumber surfaced one side to one and a half inches in thickness, of standard widths, is a standard item?

A. No; substandard.

Q. Would you say it is defined as a standard item within the grading rules?

A. No, it is not. [22]

Q. Is it defined as a standard item within the American Lumber Standards? A. It is not.

Q. Is it priced under R.M.P.R. 26 in any fashion whatsoever?

A. There is no way of pricing it under R.M.P.R. 26.

Mr. Bischoff: I think that is all.

Cross Examination

By Mr. Howard T. McCulloch:

Q. Mr. Jayne, the only thing in these invoices which you have before you there that is what you refer to as substandard is thickness; is that not right?

A. That is correct.

Q. That is, the size? The face, in other words, of the lumber, appears to be standard?

A. Standard. So specified, and in all probability was.

Q. Yes. Now then, isn't it true that grade, in other words, quality, as you said—that the grade is

(Testimony of Roger Jayne.)

measured according to the number of defects on the face?

A. And with relation to the size, too. However—pardon me.

Q. Let me ask you to refer to page 95 of Exhibit 2, Standard Grading and Dressing Rules, referring to select merchantable dimension. That is one of the items on all of these invoices. Now I am reading this paragraph 494, referring to select “merch.”, I think you call it: “Recommended for use as framing, roof sheathing, joists and rafters. Must be medium grain, except [23] Boxed Heart,” and so forth. “Will admit: Knots—sound tight, if not in clusters, approximately: Face with 3 inches, 4 inches, 6 inches, 8 inches, 10 inches, 12 inches over 12 inches.” Is there anything in there that says anything about thickness?

A. You invariably use the side, the edge of the piece as well as the face.

Q. Will you point out to me, Mr. Jayne, or to the Court, rather, any reference in there with respect to defects other than as to the width of the face?

A. The spike knot.

Q. Well, is there anything else?

A. That is the controlling factor. That is the only thing that occurs really, except the face, is the spike knot.

Q. But there is no differentiation made in these printed rules except as to the width of the face, is there?

(Testimony of Roger Jayne.)

A. That is what they use. Face width is what they use.

Q. That is it.

A. With the exception I have noted, of the spike knot.

Q. But there is no reference in there to the thickness, is there?

A. No, no reference to the thickness.

Q. That is what I want.

A. The reference is to the dimension.

Q. Now you spoke about the building standards and architects. Mr. Bischoff was reading from page 12 of M.P.R. No. 26.

A. Have you got the West Coast edition there, or the Federal [24] copies?

Q. I think this is the West Coast edition.

A. The only difference is the page reference.

Q. Well, you don't need to refer to that. In referring to this matter of thickness it has got a paragraph here, "Thicknesses," and it has allowances, "Fractional thicknesses over 2 inches and under 3 inches price from the table for planks and small timbers by adding \$3.00 per thousand," and so forth. I was correct, wasn't I, when I understood you to say that that was put in there for their own standard items; isn't that right?

A. Their own standard between 2 and 3 inches.

Q. Yes. In other words——

A. There is a spread between—there is a different classification between—you see, the sizes specify

(Testimony of Roger Jayne.)

that was dimension. We all know that means 2-inch lumber.

Q. That is right, but what I was getting at is, it is recognized in the trade, and, if you please, in the construction industry, that there are timbers used and lumber used other than the specific standards that are tabulated in this M.P.R. No. 26?

A. And there is a formula set up for pricing them.

Q. Yes. They are non-standard items, in other words, that are commonly used? A. Yes.

Q. I made a mistake here possibly, Mr. Jayne, when I referred to the grading rules, page 95. That happens to be West Coast [25] Hemlock in dimension and framing, which is the same thing.

A. There is no difference.

Q. On Page 11. A. Yes.

Q. It is the same thing?

A. The same thing.

Mr. Howard T. McCulloch: That is all.

The Witness: Your size there was referred to when you said dimension. That is 2-inch lumber.

The Court: That is all, Mr. Jayne.

Mr. Bischoff: May I ask one question there?

The Court: Yes.

Redirect Examination

By Mr. Bischoff:

Q. Mr. Jayne, following the title, Dimension Lumber, in the rule book, is there a provision which denominates the thickness generally and then has subparagraphs indicating the various grades? Right

(Testimony of Roger Jayne.)

in the rules themselves isn't there a capital heading, dimension lumber, lengths, thickness 2 inches, and so on, and a similar caption for each class of lumber?

A. Yes. It says here for each one it would have. It is part of the heading.

Mr. Bischoff: That is all.

Recross Examination

By Mr. Howard T. McCulloch:

Q. What page were you referring to there? [26]

A. Take—well, the one you want is on 35, paragraph 194.

Mr. McCulloch: All right. Thank you.

The Witness: 193 is where it is. The general caption is in that.

Redirect Examination

By Mr. Bischoff:

Q. Do you happen to know whether the John Schroeder Lumber Company is engaged in the business of buying and selling lumber?

A. No. I have no knowledge of them.

(Witness excused.)

Mr. Bischoff: I think, your Honor, that we will probably not need any other witness. If I have a chance to check by exhibits there are a group of them to be introduced.

The Court: You may check them a little later. Put on your witness now.

Mr. Howard T. McCulloch: At this time, your Honor, the defendant would like to move for a

judgment of dismissal for lack of proof of any violation.

The Court: Decision will be reserved.

Mr. William C. McCulloch: Mr. Patrick, will you take the stand.

The Court: You may swear him again. He was sworn yesterday rather informally. Mr. Patrick will be your only witness?

Mr. McCulloch: So far as I know, your Honor. [27]

The Court: You won't have any witnesses in rebuttal?

Mr. Bischoff: I don't believe so.

Defendant's Evidence

C. C. PATRICK

was thereupon produced as a witness in behalf of the defendant and, having been first duly sworn, testified as follows:

Direct Examination

By Mr. William C. McCulloch:

Q. Please state your name and where you live.

A. C. C. Patrick; Portland, Oregon.

Q. What connection have you with the Patrick Lumber Company, defendant in this case?

A. I am a member of the corporation.

Q. Are you an officer of it?

A. Yes; president.

(Testimony of C. C. Patrick.)

Q. What is the business of Patrick Lumber Company?

A. The wholesaling of lumber and allied products.

Q. Where is it engaged in business?

A. Portland, Oregon, primarily.

Q. How long has it been engaged in such business here? A. Twenty-nine years.

Q. How many years' experience have you personally had, Mr. Patrick, in the lumber industry in the Pacific Northwest? A. Thirty-eight. [28]

Q. Thirty-eight years? A. Yes.

Q. Has that business been exclusively confined to lumber wholesaling? If not, state in what other capacities you have had experience in the industry?

A. About eight years in manufacturing and simultaneously with the wholesale business also in the retail business.

The Court: How much in fir? All these things apply to fir.

A. In normal years seventy per cent of our dollar volume—seventy per cent of our footage is fir and in wholesaling.

Mr. William C. McCulloch: Q. What is the other thirty per cent, please?

A. Ponderosa pine and sugar pine.

Q. About what volume of business measured in terms of carloads did your company do in the year 1943? A. Over a thousand carloads.

Q. Are you familiar personally, Mr. Patrick,

(Testimony of C. C. Patrick.)

with Exhibit No. 2, entitled "Standard Grading and Dressing Rules for Douglas Fir" and other lumber?

A. Yes.

Q. Are you familiar with the "American Lumber Standards," Exhibit No. 1? A. Yes.

Q. As applying to softwoods?

A. Yes. [29]

Q. Are you familiar, Mr. Patrick, with the term "grade" as it is used in the Douglas Fir lumber industry? A. Yes.

Q. From your experience and knowledge in the industry state what that word "grade" connotes in respect to fir lumber.

A. In Douglas Fir lumber the grade is definitely specified for each individual grade covered by very specific rules in your list 12.

Q. I call your attention, please, to page 36 of Exhibit No. 2, paragraph 195, headed No. 1, "Dimension," and call your attention to the following: "Will admit: Knots—Sound tight, approximately," then specifying "Face width" and "Knot size," and then "Encased knots," specifying them, "Knot holes."

The Witness: Just a minute. Let me see if I have got this same page. That is 36?

Q. Yes. Are the specifications in that paragraph 195 the different elements of grade or quality which you referred to in your last preceding answer? A. Yes, they are, definitely.

Q. Very well. Now is the word "item" used in

(Testimony of C. C. Patrick.)

the lumber industry, lumber item? That is a lumber item, Mr. Patrick?

A. Why, under normal considerations it would be an item in an order. In other words, there might be ten items in one order.

Q. What would be an illustration of two or three items in Douglas Fir? [30]

A. Four pieces of 2 by 4 16 would be called an item. The next item might be ten pieces of 2 by 4 18 that would be on the face of an order.

Q. Very well. Now in the Douglas Fir industry what is understood by the word "product"?

A. What is produced from the log.

Q. What are some of the products manufactured from a Douglas Fir log?

A. Well, when they say "product" universally they refer to what the log produces. In other words, a mill will say, "I get 33 1/3 per cent of "C" clear and better; I get fifteen per cent of No. 1 common and better, and I get fifteen per cent of No. 2 common and poorer," and that gives them offhand just a rough average of the return out of the log.

Q. I call your attention, if you will examine this exhibit 2, to page 142, reading at the top of the page "Sizes" underneath "Construction Grades," then in the left-hand column the word "Product," then beneath the word "Product" the words "Boards, Dimension, Plank & Small Timbers, Stringers, Posts and Timbers, Shiplap," and so on and so on; do you understand that that is the

(Testimony of C. C. Patrick.)

significance or meaning of the word "Product" as used in the Douglas Fir Industry?

A. On this page here those separate designations, "Boards, Dimension," and so forth would be called items.

Q. Very well. Is there any difference—what difference is there, [31] as understood in the industry, between "size" on the one hand and "grade" on the other as applied to Douglas Fir lumber?

A. What is the difference between——

Q. "Size" on the one hand and "grade" on the other.

A. Well, for instance, on a 12 by 12 timber it is entirely different than a 2 by 4 piece of dimension.

Q. Well, let me ask you this question: In the industry do the words "size" and "grade"—are they understood to mean the same thing?

A. No.

Mr. McCulloch: I think that is all on direct.

Cross Examination

By Mr. Bischoff:

Q. Mr. Patrick, if I speak the words to you "No. 1 common," what do you think of?

A. You are referring to lumber, of course, now?

Q. Yes.

A. I would think of No. 1 common lumber.

Q. Do you think of it as an abstract—does No. 1 common mean the same thing to you in 2 by 4's as it does in 12 by 12's?

(Testimony of C. C. Patrick.)

A. Yes, sir. They are No. 1 common, both of them.

Q. Now by that you don't mean that they both have the same number of knots in them, and they both have the same amount of wane, and so on?

A. If you have knots at all it would be impossible to get the [32] same number of knots in a 2 by 4 as in a 12 by 12.

Q. That is it exactly. When you think of No. 1 common in a 2 by 4 you think of the term of grade in relation to the size?

A. Not necessarily, no.

Q. How about boards? Suppose we say merchantable boards, if I just tell you the word "merchantable", what do you think of? Do you think of boards, dimensions, or something else, or do you think of it in relation to dimension lumber?

A. Because in the past years we have sold more boards than any other merchantable grade I do automatically think of boards, but it is no reason anybody else does.

Q. Is it a fact that a board is a different product than dimension lumber?

A. The defects are described differently in a board than in dimension, because a board is used for a different purpose than dimension.

Q. Yet the title "merchantable" and "grade" is the same word——

A. Wait a minute. If you are using a 2 by 4 for a studding, naturally it is for a different pur-

(Testimony of C. C. Patrick.)

pose than using it for shiplap to nail on the outside of it.

Q. You are not answering my question.

A. All right.

Q. I asked you whether the title is the same.

A. What title?

Q. You say merchantable board, or merchantable select, merch. [33] dimension, the title is the same?

A. Yes.

Q. You know that grade standards are computed in a different way, and the specifications are different?

A. Yes, like No. 1 clear flooring is different than No. 1 common dimension.

Q. So that a word descriptive of grade alone is meaningless except in relation to the size of a piece?

A. Oh, no. The first question you asked me was, what did I think of when you say a No. 1 common, and I said I thought of common lumber, No. 1 common lumber, but it would include everything that is No. 1 common, from a 2 by 3 to a 24 by 24 or a 48 by 48, if they cut them that large.

Q. In other words, if you thought of it as a general term, covering a wide variety?

A. Not a variety, no. Covering a specific grade. Naturally a 12 by 12 has different defects than a 2 by 4 does, but the grade basically starts from the same thing.

Q. Is the Schroeder Lumber Company a dealer?

(Testimony of C. C. Patrick.)

A. Yes. What do you mean, wholesale or retailer?

Q. I don't care which one, but they are both; they buy and resell?

A. They are both.

Q. Do you ever file special applications for price approval?

A. I would have said no up to yesterday, but you put in the figure there that we had applied for one on the New York Board of [34] Transportation.

Q. Have you applied for any other?

A. I don't know of any. We may have, though.

Q. That approval—rather, that application was filed in May or June or 1943, wasn't it?

A. That is what your paper I saw yesterday said. I didn't check on it.

Q. Well, you don't have any doubt about it?

A. I will take your word for it that is a correct copy of our letter, and if it was we applied for it. I had never seen it before, however.

Q. Why did you apply?

A. Why did I apply?

Q. Yes.

A. As I remember it, the New York Board of Transportation has a specification that was built primarily on Southern Pine grades which can be translated into Douglas Fir grades, but you have got to go way around the corner to get it, so they were buying on their own specifications which were based on Southern Pine. One of their clauses was

(Testimony of C. C. Patrick.)

square edge and sound. There is no such designation in the Douglas Fir rules. And they asked for a price on those grades and as there were no such grades designated in whatever your book is there, we asked for a special price for same. Now, understand, I don't know as we did. All I know is I saw that letter. But if we wrote that letter, which I think we [35] did, and grant we did, we asked for this special price for those reasons.

Q. In other words, you asked for a special price because you could not fix a price out of the R.M.-P.R. for the grades you shipped?

A. I would guess that was it.

Q. Now before you shipped any of this lumber, or, as a matter of fact, before it was manufactured, you indicated yesterday you had had some conversations, I believe yourself, with Mr. Barker concerning the product and concerning the price?

A. That is what initiated our buying the lumber from him.

Q. At that time you were familiar, were you not, with the fact that this product was scant dimension lumber?

A. What would you call scant, referring to a 2 by 4 surfaced inch and five-eighths? Would you call that scant of two inches?

Q. I am asking you, Mr. Patrick.

A. You are bringing this word "scant" in. Now scant is a word, since you have brought it up, that was used quite a few years ago, in fact about the time these American Lumber Standards were adopt-

(Testimony of C. C. Patrick.)

ed out on the Coast. A number of concerns started buying 3-inch plank sawn $2\frac{3}{4}$ and selling it as 3-inch plank and that became known as scant plank in the rough, and at that time the West Coast industry recognized a scant plank. Now, yes, answering your question directly; if you are referring to an inch and five-eighths, one and a half inch would be scant by an eighth of an inch. But that does not make it scant. If a man sells inch [36] and a half he is not scant of anything. He is selling inch and a half.

Q. We have here a letter which you wrote to Mr. Barker, who is of the West Side Lumber Company, and this letter has been identified in the pre-trial order and it has been stipulated that may be introduced. I don't recall the number now. I would like to have this handed to you. I would like to call your attention to the first sentence, which reads, "Dear George"; that is Mr. George Barker; "Confirming phone conversation of this date, in regard to the scant dimension you offered to our Mr. Patrick", and so on. This letter was written by Mr. Brushoff, of your firm. Now why did you call it scant dimension when you wrote that letter?

A. You just said Mr. Brushoff wrote it, so I don't know why, but I can think very naturally it is inch and a half dimension, so we called it scant. Probably we had been talking about it in the same terms. However, that does not make it scant of what we sold.

(Testimony of C. C. Patrick.)

Q. Do you know what this lumber was manufactured from? A. No.

Q. Did you ever have any conversation with Mr. Barker indicating what it was made from?

A. Yes.

Q. What did Mr. Barker indicate that it was made from?

A. 3-inch plank, resawn. [37]

Q. Did he indicate to you that he was having a lot of trouble with his manufacturing, that he had thick and thin in remanufactured lumber?

A. No more than any mill of that type. All of them do.

Q. Well, did he say anything about it?

A. Yes. He said that his head rig didn't cut accurate enough to allow him to cut 3-inch plank and resaw it and make 2-inch dimension and 1-inch boards surfaced, without a tolerance.

Q. In other words, when you fixed the price between you and Mr. Barker you knew he was resawing this manufactured lumber and that there was going to be a variation, that the product would not come up to standard lumber at all?

A. No. It wasn't remanufactured lumber. What he was trying to do was to get boards primarily, which I think he succeeded in doing, and he ran this stock to what it would make. Now a lot of that dimension would have dressed inch and five-eighths, but with his manpower shortage—now I am saying this from guesswork—I guess his man-

(Testimony of C. C. Patrick.)

power shortage was such he could not afford to segregate that into two lots.

Q. By the same token a lot of it would run inch and a quarter, too, would it not?

A. I would not know. I would say not, because lots they ran on the head rig could not have been in excess of a quarter of an inch one way or the other, and if it wasn't over a quarter of an inch he could easily make inch and a half. [38]

Q. Mr. Patrick, when you fixed the price—when you sold it, when you made out your own invoices, or when you discussed it with Barker, either one, did you file a special application with OPA for a price? A. No.

Q. Did you ever contact anybody in the Portland office of OPA for a price on it?

A. No. No necessity to do it. I was just governed by the price list.

Q. Did you feel at the time you priced the item you could spell out a price for it? A. What?

Q. At the time you made up your own price for this item did you think you could fix a price for it in accordance with the price regulation?

A. I know I did.

Q. All right. Now how did you figure it?

A. Why, we took the nominal 2-inch rough measure.

Q. Now I would like to give you a copy of this regulation and ask you how you arrived at your price, how you figured or spelled out a price, by this book.

(Testimony of C. C. Patrick.)

A. What do you mean by "spell"?

Q. How did you spell it out, how much thickness, length, and so on?

A. That is not spelling, is it? [39]

Q. It is perhaps a bad choice of words, but tell us how you arrived at your prices by using the regulation. I think there is a copy in evidence already.

A. Well, in the first place, it reads there if the buyer—that is Article 12 I think.

The Court: Ask him to identify the article and page he is reading from.

The Witness: Let me have the other copy. I know where they are there.

Mr. Bischoff: I will loan you mine, Mr. Patrick, if you will give it back to me when you get through.

A. This is Revised Maximum Regulation 26 of June 9th, 1943, and this is——

Mr. Bischoff: If the Court please, I loaned my copy to Mr. Patrick. That is a reprint by the West Coast Lumbermen's Association and it has no number on it.

The Court: What exhibit is he reading from?

Mr. Bischoff: I am sorry, I can't tell you. But, your Honor, I think we had better perhaps substitute the copies, because the paging is not the same on the Government's printed copy and on the West Coast copy.

The Court: I want him to read from something I can find when I come to read the record. I want him to state the Exhibit number and page.

(Testimony of C. C. Patrick.)

The Witness: Well, this is Section 12 I am reading right now, [40] and on this West Coast edition numbered 26 on page 5, "If a seller wishes to sell a grade which is not specifically priced in the price tables, he must apply to the Lumber Branch, Office of Price Administration, Washington." As we did not wish to sell any grade that was not a standard grade, and did sell nothing but standard grade, there was no occasion to apply for a special price to Washington.

The next line says, "or wishes to make an addition for special workings", he must apply to the Lumber Branch for a maximum price. We did not wish a make an addition for special workings. Therefore we did not apply for a price. In fact, the price on our material was more than an average of \$2.00 per thousand less delivered to John Schroeder than the price would have been for standard inch and five-eighths dimension.

Further, there was No. 1 common shipped in our order. Paragraph 215 is a little better grade than No. 1 common. Select merchantable is a little better grade than No. 1 common, and the price on the 215 delivered on a Milwaukee rate, where these cars were shipped, was less than the price of No. 1 common delivered on that rate, so the customer got a superior product. And Select Merchantable of this net size of ours would have a considerably greater load-bearing strength than would inch and five-eighths No. 1 common dimension. So all in all the customer got better stock than he paid for. We

(Testimony of C. C. Patrick.)

conformed strictly with the OPA regulation in pricing it, and that is all. [41]

Mr. Bischoff: I would like to move, if the Court please, to strike this entire answer as not responsive. It does not indicate in any way how Patrick Lumber Company priced this item.

The Court: It may stand.

Mr. Bischoff: Q. Now Mr. Patrick, will you please tell me how you applied this price regulation to determine the price on the product you shipped? You told us how you didn't do it; now tell us how you did work out your price.

A. I didn't work it out.

Q. Who did work it out?

A. First, the West Side Lumber Company worked out prices and I told them I didn't know whether they conformed to the ceiling or not. Then Mr. Brushoff in our office—not Bischoff; his name is Brushoff, B-r-u-s-h-o-f-f; he is a Swede—and Mr. Edwards worked it up separately, and their figures agreed and there was a slight variance there between theirs and the West Side's prices, so after numerous exchanges of correspondence and telephone calls the West Side agreed to ours, all except on two items and they showed us we were wrong and we changed them, so that finally they were the result of an agreed meeting of the minds. I guess you would call it.

Q. Did you check those prices with your men?

A. Personally I did not, no. They know much more about the details than I do, so there is no use

(Testimony of C. C. Patrick.)

in my trying to check it, but I would guarantee what they did was right. [42]

Q. And is your answer that you don't know just how they got the prices?

A. No, that is not my answer. I told you I didn't get them, that they got them.

Q. All right. And your answer is, you personally don't know how this lumber was priced?

A. Why, yes. It was priced on this Table 2.

Q. O. K. Now we are getting around to it. Now you tell me how you priced it on Table 2, or how you can price it on Table 2.

A. He had the nominal 2-inch rough there, which was stock. He had to cut to get——

Q. I thought you just got through telling me that you didn't know what he made this from.

A. I told you that he told me that he resawed 3-inch plank, didn't I?

Q. Yes, you told me that.

A. Well then, your question is wrong.

Q. How do you figure that you are going to get full inch of board and full dimension out of a 3-inch plank?

A. Well, if your 3-inch plank is full three inches in the rough, you will resaw—or, rather, he surfaced it, he said; he surfaced it two sides to probably two and three-quarters. He would take out an eighth, as he told me he was just putting in a small resaw and a small resaw, if it is accurate, can resaw with an eighth of an inch kerf. So if he

(Testimony of C. C. Patrick.)

took out an eighth of an inch [43] kerf that would leave him two and five-eighths, wouldn't it?

Q. I haven't quite followed you.

A. He would have one full inch piece. Take that one piece off by itself, which is what he was after, and that dresses twenty-five thirty-seconds. Then he has ostensibly a 2-inch piece left.

Q. Now I would like to have you explain to the Court why this involved process should be used if there was enough lumber there to get standard products. It is a fact, Mr. Patrick, isn't it, that the price of boards was very high at that period of time and that any mill which qualified under the War Production Board circular was entitled to get an additional three and a half dollars for boards and that boards were regarded as profitable under that provision?

A. At that particular time my guess is that they hadn't put in the advance on boards yet and I wouldn't know, but I would say that is entirely beside the point, because the primary object on their part was that the Army and Navy needed boards and the C.P.A. was not giving releases freely for other businesses, rather than WPB—one of those initials anyhow—freely, unless they were shipping what C.P.A. called a required percentage of board. So every mill at that time was endeavoring to increase the output of boards. This mill was primarily what they called a plank mill before then.

Q. On your statement you started figuring the price on a nominal 2-inch thickness. I don't under-

(Testimony of C. C. Patrick.)

stand why you would use nominal [44] 2-inch thickness for a scant product. If you had two-inch thickness you would be able to give a standard product for full price, it seems to me.

A. It wasn't a very involved process, as you mention. All they were doing, the mill was lined up to give 3-inch plank, 4-inch plank, put them out in a car and ship them. When they got to boards they got this resaw. They could not afford to cut boards on the head rig—I don't know that; I didn't see it; but this mill, with a circular head rig could not afford to cut boards with a three-eighths inch kerf on their head rig because they wouldn't have too much lumber left out of it. They cut this plank, which was three inches. They could have sold it for 3-inch plank just as it was, either rough or surfaced. Therefore I presume they figured they were entitled to 3-inch measure for what they cut there. Anyhow, they resawed it, got a 1-inch board and a 2-inch piece, or whatever was left, and he stated that on account of the variance in sawing on his head rig there he would not be safe in running inch and five-eighths dimension but he could make inch and a half, and that is the reason the whole thing developed. I would say that under any reasonable interpretation he was entitled to get the equivalent of 3-inch measure on those planks he cut and broke his back to get 1-inch boards out of them.

Mr. Bischoff: That is all. Thank you, Mr. Patrick.

(Testimony of C. C. Patrick.)

Mr. William C. McCulloch: Mr. Bischoff, will you produce the letter dated March 23, 1944, addressed to OPA, attention of [45] yourself, by Patrick Lumber Company, signed C. C. Patrick, in which he explains in detail how he figured this price.

Mr. Bischoff: I think that is a letter that is in evidence, Mr. McCulloch.

Mr. William C. McCulloch: Is it in evidence?

Mr. Patrick: I think so. In order to make it clear to the Court, there are several documents here which are intended to be in evidence and Mr. McCulloch and I have agreed on, I think, all of them, and we don't want to, because of our going ahead without first identifying the documents, get into the position of having a failure of identification of that sort, and when we finish our case I would like leave for a few minutes to check each of these and supplement anything that has been omitted.

The Witness: There is a letter of March 23 here.

Mr. Howard T. McCulloch: I want to be sure to have that identified and marked so the Court will have it tied up with this cross examination. Just keep the stand, Mr. Patrick.

Redirect Examination

By Mr. William C. McCulloch:

Q. Mr. Patrick, in your testimony did you use the word "nominal" in the sense it is used in the West Coast Grading Rules, Exhibit No. 2, in reference to thickness? A. That is No. 12?

Q. Yes. A. Yes. [46]

Mr. William C. McCulloch: That is all. Thank you.

(Witness excused.)

Mr. William C. McCulloch: May I get this particular exhibit marked now to identify it, so it will be clearly connected——

Mr. Bischoff: I think we had a number on it in the draft of the pre-trial order.

Mr. William C. McCulloch: I want to get it in the record here in connection with your cross-examination of Mr. Patrick. I think the next number, Mr. Person, is 7, isn't it?

The Reporter: I have marked 5 altogether up to this point.

Mr. William C. McCulloch: No. 6 is M.P.R. No. 26. This will be No. 7. I have no further.

Mr. Bischoff: At this time we offer in evidence a typewritten copy of Revised General Order No. 3, relating to delegation of authority to Enforcement Attorneys. This copy has been shown to Mr. McCulloch.

Mr. Howard T. McCulloch: What is the date of this?

Mr. Bischoff: It is dated at the bottom of it.

Mr. Howard T. McCulloch: Of course, that is objected to as being wholly immaterial and ineffective to give authority to Mr. Bischoff or any of the OPA superintendents, to act for or in the name of the Administrator. You can't breathe life into something that never existed.

The Court: What is its date? [47]

Mr. Howard T. McCulloch: 6-10-43, I think. Is that correct, at the bottom?

Mr. William C. McCulloch: Yes.

The Court: Is that something I haven't seen?

Mr. Bischoff: No. Your Honor has undoubtedly seen this. This order is not the ratification order of delegation; it is an original order of delegation, delegating power to Regional Attorneys and came out a considerable time before the institution of this suit.

The Court: What kind of a record have you made on the question we are discussing now? What kind of a record has been made in this case?

Mr. Bischoff: On delegation or on the—I am sorry, I didn't understand the question.

Mr. William C. McCulloch: On the matter of delegation of authority to you, I understand the Court to mean, to institute this suit.

The Court: Yes. What is the record in this case?

Mr. William C. McCulloch: Mr. Bischoff yesterday, in the pre-trial conference, stated in open court that he had instituted this action on his own discretion. Is that not correct?

Mr. Bischoff: That is right.

Mr. William C. McCulloch: And not with the knowledge and express direction of the Administrator; is that correct?

Mr. Bischoff: The suit was instituted on my own discretion, pursuant to the general order No. 3. The Administrator, I stipu- [48] lated, did not have personal knowledge of the institution of this suit.

Mr. William C. McCulloch: There was no express direction and knowledge of the Administrator?

Mr. Bischoff: No; correct.

The Court: Is that No. 3 the one you just put in?

Mr. Bischoff: Yes, sir.

Mr. Howard T. McCulloch: Yes. It is revising the first order. I don't think it changes the situation, though.

The Court: Is the first order in evidence?

Mr. Howard T. McCulloch: Not as far as I know.

The Court: This record is this No. 3 and the statement that Mr. Bischoff has made?

Mr. Howard T. McCulloch: That is correct.

Mr. Bischoff: I take it that there is no objection to the form of the proof of the order of delegation—that the submission of the typewritten copy will suffice?

Mr. Howard T. McCulloch: Just as good as the original.

Mr. Bischoff: All right.

Mr. Howard T. McCulloch: For whatever it is worth.

Mr. Bischoff: All right. Then we offer in evidence two documents referred to in the pre-trial order, consisting of the application of the West Side Lumber Company, dated June 8th, and the reply fixing a special price, dated August 1st, 1944.

The Court: Call out the pre-trial numbers that

they have. Name [49] the pre-trial numbers that they have. Do they have pre-trial numbers?

Mr. Bischoff: Yes, your Honor, they do.

The Court: Now, look here, why make such a chore out of this exhibit business?

Mr. Bischoff: Well, we can get them.

The Court: Are there any exhibits that are objected to on either side?

Mr. William C. McCulloch: These two, your Honor, are the only ones that I know of.

The Court: Were those objections stated at the pre-trial hearing?

Mr. William C. McCulloch: Yes, sir.

The Court: All right. Then the thing to do is to consider offered and submitted all of the exhibits that were identified at the pre-trial hearing, subject to the objections that were stated at that time. That is all that needs now to be done about exhibits until that time by Mr. Person, subject to your checking with him, and he will give them new trial numbers the same as the pre-trial numbers.

Mr. Bischoff: If we can get a recess for about three minutes we can get them all in order.

Mr. William C. McCulloch: If your Honor please, there is a special objection to these two exhibits here. Yesterday in the pre-trial conference I asked Mr. Bischoff if these two copies, [50] plus a copy of a letter written by Peter Stone to the West Side Lumber Company, first refusing to make a retroactive special price, constituted the only communications between him or his office and Mr. Stone or his office on the subject. He said

no. I asked him then if he would consent to put in the entire communications. He said no. I again, in his office, later yesterday afternoon asked him to permit my inspection of the additional exchange of correspondence in this connection and he refused again.

I will say this: The defendant has no objection to these two copies going in, provided the whole exchange of correspondence, including the letter of June 22, to the West Side Lumber Company from Peter Stone is included and copies of such further communications as Mr. Bischoff and Mr. Stone had on the subject.

There is another objection to the admission of these two documents. That is, the act of Peter Stone in fixing a special price and the act of the West Side Lumber Company in making an application seven or eight months or more after these sales were consummated, in consideration of the highly penal nature of this Act, made Section 205 (e) of the Act as so interpreted and applied here an ex post facto law. I want to make that point in connection with the admission of these documents.

The Court: Now, gentlemen, you straighten everything out between yourselves about the exhibits in the next few minutes while I am doing something else and I will come back. You send [51] me word you are ready. And you will settle about these two letters you are now talking about and related correspondence, and then be prepared to argue the case, too. We might as well go ahead and

finish it up. Clerk, you let me know when they are ready.

(The Court here retired from the Court Room at 10:50 o'clock A. M., and thereupon the following occurred without the presence of the Court:)

Mr. Bischoff: The following exhibits have been introduced in evidence: 1 to 5, inclusive.

No. 6, Copy of Revised Maximum Price Regulation No. 26.

(The document entitled Revised Maximum Price Regulation No. 26, Douglas Fir and Other West Coast Lumber, June 9, 1943, so offered, was marked Plaintiff's Exhibit 6.)

Mr. Bischoff: Exhibit 7, copy of invoice of West Side Lumber Company to Patrick Lumber Company, dated September 3rd, 1943.

(The copy of invoice dated September 3, 1943, West Side Lumber Company to Patrick Lumber Company, so offered, was marked Plaintiff's Exhibit 7.)

PLAINTIFF'S EXHIBIT No. 7
WEST SIDE LUMBER CO.
 Lumber Manufacturers
 Eugene, Oregon

September 3, 1943

Sold to: Patrick Lumber Company
 Terminal Sales Building
 Portland, Oregon

Invoice No.: 853
 Order No.: 597
 Your Order No.: 8358
 Car: NP17862
 F.O.B.: Milwaukee—75½¢

Ship to: John Schroeder Lumber Company
 Milwaukee, Wisconsin

Shipping Point: Danebo, Oregon (Direct Mill Shipment)

DOUGLAS FIR-SIS TO 1½" H&M S2E Std-GREEN

Sel. Struct.				
2x4	2/8 8/10 9/12 6/14 4/16 1/18 1/20	260'	\$50.50	\$13.13
	2/22	29	54.00	1.57
2x6	1/6 1/8 5/10 5/12 2/14 2/16 1/18.....	202	51.25	10.35
2x8	3/6 9/8 10/10 39/12 16/14 16/16 2/18 1/20	1592'	50.25	80.00
	6/22 3/24	272	52.25	14.21
Sel. Merch.				
2x4	5/8 2/10 12/12 12/14 9/16 2/18 2/20	395	48.50	19.16
	6/2	88	52.00	4.58
2x6	8/8 9/10 19/12 6/14 6/16 1/18 3/20	640	49.25	31.52
	2/22	44	51.75	2.28
2x8	4/6 20/8 23/10 125/12 49/14 57/16 13/18 9/20.....	5235	48.25	252.59
	8/22 5/24	395	50.25	19.85
Par. 215				
2x4	5/8 5/10 30/12 13/14 27/16 4/18 8/20	864	47.50	41.04
	4/22 1/24	75	51.00	3.83
2x6	7/8 7/10 26/12 20/14 34/16 8/18 3/20	1466	48.25	70.73
	11/22	242	50.75	12.28
2x8	4/6 20/8 16/10 194/12 90/14 145/16 58/18 37/20.....	10715	47.25	506.28
	41/22 19/24	1811	49.25	89.19
#2 Common				
2x4	5/8 11/10 28/12 25/14 21/16 9/18 8/20	996	43.50	43.33
	11/22 2/24	193	47.00	9.07
2x6	2/8 3/10 37/12 5/14 19/16 2/18 1/20	920	44.25	40.71
	4/22	88	46.75	4.11
2x8	16/8 19/10 221/12 69/14 101/16 44/18 34/20.....	9365	43.25	405.04
	58/22 36/24	2853	45.25	129 10
		38,740'	\$1803.95	
		Est. Frt.—90,749# @ 75½¢.....	685.15	
			1118.80	
		8% & 2%.....	110.09	
			\$1008.71	

PLAINTIFF'S EXHIBIT No. 8
WEST SIDE LUMBER CO.
 Lumber Manufacturers
 Eugene, Oregon

September 16, 1943

Sold to: Patrick Lumber Company
 Terminal Sales Building
 Portland 5, Oregon
 Ship to: John Schroeder Lumber Company
 Milwaukee, Wisconsin
 Shipping Point: Danebo, Oregon (Direct Mill Shipment)

Invoice No.: 876
 Order No.: 597
 Your Order No.: 8358
 Car: NP 12494
 F.O.B.: Milwaukee—75½¢

DOUGLAS FIR S1S H&M TO 1½" S2E TO Std.

Sel. Struct.										
2x4	2/8	2/10	7/12	2/14	7/16	1/18	6/20	265'	\$50.50	\$13.38
2x6	1/8	17/12	5/16	1/20				312	51.25	15.99
"	1/22							22	53.75	1.18
2x8	1/8	3/10	28/12	8/14	9/16	8/18	2/20	1085	50.25	54.52
"	2/22	2/24						123	52.25	6.43
Sel. Merch.										
2x4	5/8	1/10	27/12	7/14	12/16	4/18	9/20	611	48.50	29.63
"	1/22							15	52.00	.78
2x6	1/8	1/10	39/12	6/14	17/16	5/18		932	49.25	45.90
"	2/22							44	51.75	2.28
2x8	5/8	5/10	68/12	22/14	18/16	20/18	10/20	2749	48.25	132.64
"	5/22	3/24						243	50.25	12.21
Par. 215										
2x4	7/8	7/10	70/12	15/14	34/16	10/18	13/20	1440	47.50	68.40
"	11/22	3/24						209	51.00	10.66
2x6	4/8	7/10	51/12	16/14	43/16	9/18	7/20	1928	48.25	93.03
"	5/22	1/24						134	50.75	6.80
2x8	2/6	12/8	15/10	152/12	74/14	65/16	53/18 26/20	7509	47.25	354.80
"	15/22	7/24						664	49.25	32.70
#2 Common										
2x4	8/8	8/10	110/12	30/14	70/16	14/18	15/20	2371	43.50	103.14
"	12/22							176	47.00	8.27
2x6	3/8	1/10	76/12	31/14	57/16	22/18	9/20	2868	44.25	126.91
"	14/22	5/24						428	46.75	20.01
2x8	5/6	19/8	38/10	287/12	95/14	109/16	57/18 54/20	12248	43.25	529.73
"	27/22	20/24						1432	45.25	64.80
								37,808'		\$1734.19
								Est. Frt.—88,340# @ 75½¢		666.97
										1067.22
								8%		85.38
										981.84
								2%		19.64
										\$ 962.20



Mr. Bischoff: Exhibit 8, copy of invoice of West Side Lumber Company to Patrick, dated September 16.

(The copy of invoice dated September 16, 1943, West Side Lumber Co. to Patrick Lumber Company, so offered, was marked Plaintiff's Exhibit 8.)

PLAINTIFF'S EXHIBIT No. 9

WESTSIDE LUMBER CO.
Lumber Manufacturers
Eugene, Oregon

October 7, 1943

Sold to: Patrick Lumber Company
Terminal Sales Bldg.
Portland, Oregon

Ship to: John Schroeder Lumber Co.
Milwaukee, Wisconsin

Shipping Point: Danebo, Oregon (Direct Mill Shipment)

Invoice No.: 919

Order No.: 597

Your Order No.: 8358

Car: WAB-45712

F.O.B.: Destination—75½¢

DOUGLAS FIR SIS H&M TO 1½"—S2E to Std.

Sel. Struct. 2x4

2x4	2/6 8/8 7/10 32/12 8/14 11/16 1/18 7/20	651	\$50.50	\$32.88
"	3/22	44	54.00	2.38
2x6	2/6 7/8 3/10 16/12 9/14 11/16 7/18 1/20	738	51.25	37.82
2x8	1/8 3/10 22/12 6/14 8/16 3/18 1/20	784	50.25	39.40

Sel. Merch.

2x4	9/6 31/8 22/10 67/12 18/14 30/16 5/18 9/20	1552	48.50	75.27
2x6	4/6 2/8 6/10 27/12 10/14 16/16 3/18 4/20	954	49.25	46.98
"	1/24	24	51.75	1.24
2x8	1/6 7/8 4/10 51/12 11/14 15/16 7/18 7/20	1832	48.25	88.39

Par. 215

2x4	8/6 35/8 31/10 124/12 56/14 96/16 30/18 32/20	3751	47.50	178.17
"	12/22 4/24	240	51.00	12.24
2x6	3/6 1/8 7/10 59/12 28/14 45/16 29/18 4/20	2518	48.25	121.49
"	3/22 4/24	162	50.75	8.22
2x8	7/6 17/8 35/10 95/12 35/14 44/16 24/18 18/20	4872	47.25	230.20

#2 Common

2x4	7/6 43/8 36/10 135/12 47/14 77/16 29/18 48/20	3825	43.50	166.39
"	7/22 3/24	151	47.00	7.10
2x6	7/10 82/12 33/14 45/16 15/18 10/20	2706	44.25	119.74
"	2/22 1/24	68	46.75	3.18
2x8	8/6 22/8 72/10 270/12 67/14 111/16 60/18 84/20	12877	43.25	556.93

37,749'

\$1728.02

Est. Frt.—87,689# @ 75½¢..... 662.05

1065.97

8%..... 85.28

980.69

2%..... 19.61

\$ 961.08

Mr. Bischoff: Exhibit 9, copy of invoice from West Side Lum- [52] ber Co. to Patrick Lumber Company, dated October 7th, 1943.

(The copy of invoice dated October 7, 1943, West Side Lumber Co. to Patrick Lumber Company, so offered, was marked Plaintiff's Exhibit 9.)

PLAINTIFF'S EXHIBIT No. 9

WESTSIDE LUMBER CO.
Lumber Manufacturers
Eugene, Oregon

October 7, 1943

Sold to: Patrick Lumber Company
Terminal Sales Bldg.
Portland, Oregon

Ship to: John Schroeder Lumber Co.
Milwaukee, Wisconsin

Shipping Point: Danebo, Oregon (Direct Mill Shipment)

Invoice No.: 919
Order No.: 597
Your Order No.: 8358
Car: WAB-45712
F.O.B.: Destination—75½¢

DOUGLAS FIR S1S H&M TO 1½"—S2E to Std.

Sel. Struct. 2x4					
2x4	2/6 8/8 7/10 32/12 8/14 11/16 1/18 7/20	651	\$50.50	\$32.88	
"	3/22	44	54.00	2.38	
2x6	2/6 7/8 3/10 16/12 9/14 11/16 7/18 1/20	738	51.25	37.82	
2x8	1/8 3/10 22/12 6/14 8/16 3/18 1/20	784	50.25	39.40	
Sel. Merch.					
2x4	9/6 31/8 22/10 67/12 18/14 30/16 5/18 9/20	1552	48.50	75.27	
2x6	4/6 2/8 6/10 27/12 10/14 16/16 3/18 4/20	954	49.25	46.98	
"	1/24	24	51.75	1.24	
2x8	1/6 7/8 4/10 51/12 11/14 15/16 7/18 7/20	1832	48.25	88.39	
Par. 215					
2x4	8/6 35/8 31/10 124/12 56/14 96/16 30/18 32/20	3751	47.50	178.17	
"	12/22 4/24	240	51.00	12.24	
2x6	3/6 1/8 7/10 59/12 28/14 45/16 29/18 4/20	2518	48.25	121.49	
"	3/22 4/24	162	50.75	8.22	
2x8	7/6 17/8 35/10 95/12 35/14 44/16 24/18 18/20	4872	47.25	230.20	
#2 Common					
2x4	7/6 43/8 36/10 135/12 47/14 77/16 29/18 48/20	3825	43.50	166.39	
"	7/22 3/24	151	47.00	7.10	
2x6	7/10 82/12 33/14 45/16 15/18 10/20	2706	44.25	119.74	
"	2/22 1/24	68	46.75	3.18	
2x8	8/6 22/8 72/10 270/12 67/14 111/16 60/18 84/20	12877	43.25	556.93	
			37,749'	\$1728.02	
			Est. Frt.—87,689# @ 75½¢	662.05	
				1065.97	
			8%	85.28	
				980.69	
			2%	19.61	
				\$ 961.08	



Mr. Bischoff: Next, Exhibit 10, original letter, Patrick Lumber Company to Jerome S. Bischoff, dated March 23, 1944.

(The letter dated March 23, 1944, Patrick Lumber Company by C. C. Patrick, to O.P.A., Attention Mr. Jerome S. Bischoff, so offered, was marked Plaintiff's Exhibit 10.)

PLAINTIFF'S EXHIBIT No. 10

Cable Address: "Patco"

PATRICK LUMBER CO.

WHOLESALE

Portland, Oregon

March 23, 1944

[Stamped]: Received Mar, 24, 1944, Portland,
OPA.

O.P.A.,
Bedell Building,
Portland, Oregon

Gentlemen:
Attention Mr. Jerome S. Bischoff

Referring to our orders 8247 and 8358 and as per our conversation, the original of these orders (8247) resulted from a conversation in Eugene between Mr. Barker and Mr. Patrick.

Mr. Barker advised he was able to salvage considerable lumber with a resaw he had just installed and that he was able to do this and produce more Board than previously, and the way he secured the stock developed stock on which he would give us the exclusive sale if we in turn would agree not

to advise other mills how he was doing it, or buy similar stock from other mills.

He then figured out "ceiling" prices for 2" Dimension Surfaced 11½ and said: "There you are. What do you think?" I said: "If your figures are right that is a good thing if the yards will buy it. I then requested that he hold it open for us for four days to give Mr. Brushoff an opportunity to check prices and feel out our selling connections to see how it would sell.

He said it would all dress up clean, but he would have to have the privilege of hit-or-miss. I said that would kill the sale. After considerable conversation hit-and-miss was agreed upon. However, our initial order was written up without the hit-and-miss privilege and think several cars shipped that way. However, as soon as this omission was called to our attention the order and subsequent shipping directions were corrected to hit-and-miss.

Mr. Brushoff checked the "ceiling" prices and the agreed prices were adjusted to conform, and which we considered conformed exactly with the then effective "ceiling."

We believe Mr. Barker worked this out in perfectly good faith. In fact, I considered it resourceful of him to figure a way to produce more Boards and at the same time actually increase the total production of his mill as well as salvage some stock that otherwise would not have been salable as lumber.

As I recall his arguments they were to the effect: "I am cutting lots of 3" Plank. My rigs are not

well enough lined up to get as accurate sawing as I want. I get from $\frac{1}{8}$ to $\frac{1}{4}$ " variation in thickness of Plank." I said: "All right, you can get one Board S4S 25/32 and one piece of Dimension 15/8 hit-and-miss sure, and probably all clean up S1S2E 15/8".

I then set down the following as what he would get out of his 3" Plank:

1 resaw cut 1/8", or.....	4/32
1 board	25/32
Surfacing 2 sides	7/32
1 piece Dimension 1 1/2, or....	1-16/32
Surfacing 1 side 1/8, or.....	4/32

1-56/32, or 2-24/32, or 2-3/4.

"There you are—1 1/2 net Dimension with 1/8 to spare on stock that has 1/8 variation, so you can make 15/8 hit-and-miss."

He said: "Whose lumber is this and whose mill is this you are running? I told you I wanted this business to take care of my stock that runs 1/8 to 1/4" variation. I am giving you first chance at it. If you don't want it II can sell elsewhere easily and, further, while we shoot at 1/8 kerf on the resaw we can't depend on that and 1 1/2 net is the only thing I can count on safely. So take it or leave it."

So while we checked up he held it open for us.

We are sending copy of this letter to West Side Lumber Company so that they may advise you if any of the statements made from memory do not agree with their recollection.

We are enclosing copy of our letter of April 27, 1943 to West Side Lumber Company, written after we had checked "ceiling" prices and salability of the stock.

Yours very truly,

PATRICK LUMBER COMPANY,

By C. C. PATRICK,
President

CCP:LD

CC: West Side Lumber Co.,
Eugene, Oregon

Mr. Bischoff: Next is Exhibit No. 11, a copy of letter, Patrick Lumber Company to George R. Barker, dated April 27th, 1943.

Mr. William C. McCulloch: '44.

(Mr. Bischoff shows letter to Mr. McCulloch.)

Mr. William C. McCulloch: No. That is wrong, obviously.

Mr. Bischoff: This was sold in '43. That is right.

Mr. William C. McCulloch: Yes, that is correct.

(The letter dated April 27, 1943, Patrick Lumber Company by W. A. Brushoff, to Geo. R. Barker, so offered, was marked Plaintiff's Exhibit 11.)

PLAINTIFF'S EXHIBIT No. 11

Cable Address: "Pateo"

PATRICK LUMBER CO.
WHOLESALE

Portland, Oregon

April 27, 1943

Mr. Geo. R. Barker,
West Side Lumber Co.,
Eugene, Oregon

Dear George:

Confirming phone conversation of this date, in regard to the scant Dimension you offered to our Mr. Patrick.

We have an order coming up for this, based upon FOB mill prices, but are trying to get this amended to "delivered" in accordance with your suggestion.

We also understand that you wish the grade now to read

Approximately 10% #2 Common
Balance Para. 215, plus 301 and
Select Merch. plus 301

Also, we understand that you can arrange to ship one carload next week and follow at the rate of one car every six or seven days, shipping a total of 10 cars.

If our understanding is not correct will you please phone us upon receipt of this letter.

Yours very truly,

PATRICK LUMBER COMPANY,

By W. A. BRUSHOFF

Mr. Bischoff: All right. Now exhibit No. 12, copy of Revised General Order No. 3 of the Administrator of the Office of Price Administration.

(The copy of Revised General Order 3-- Representation of Administrator in Court Proceedings, Service of Pro- [53] cess, so offered, was marked Plaintiff's Exhibit 12.)

Mr. Bischoff: Now for identification.

PLAINTIFF'S EXHIBIT NO. 12

REVISED GENERAL ORDER 3* REPRESENTATION OF ADMINISTRATOR IN COURT PROCEEDINGS

Service of Process

General Order No. 3 is revised and amended to read as follows:

Pursuant to the authority conferred upon the Price Administrator by the Emergency Price Control Act of 1942, as amended, and Executive Orders

* 7 FR 2238, 4852, 7910. Formerly entitled "Administrative Order 1." Revised Order issued 6-10-43, 8 FR——.

9125, 9250, 9280 and 9328, the following order is prescribed:

(a) Institution of and intervention in civil proceedings. The General Counsel or the Acting General Counsel, the Director of the Enforcement Division or the Acting Director, the Regional Attorneys or the Acting Regional Attorneys, and the Regional Enforcement Attorneys or the Acting Regional Enforcement Attorneys, are each authorized to institute and intervene in appropriate civil actions or proceedings, in the name of the Price Administrator; and any of them may authorize any other attorney employed by the Office of Price Administration to institute or intervene in appropriate civil actions or proceedings in the name of the Price Administrator. Except as herein provided, no other officer or employee of the Office of Price Administration, whether employed in the principal office in Washington, D. C., or in any regional or field office, has authority to institute or intervene in proceedings on behalf of the Price Administrator.

(b) Service of process upon the Administrator. Service of process upon the Price Administrator may be made by serving him personally, or by leaving a copy thereof at the Office of the Secretary, Office of Price Administration, Washington, D. C. In actions commenced outside the District of Columbia to obtain judicial review of rationing suspension orders issued under Procedural Regulation No. 4, service of process upon the Price Administrator may be made by personal service thereof upon the District Director or, in the latter's

absence, upon the Acting District Director of the Office of Price Administration for the OPA district in which the administrative proceedings resulting in the suspension order were originally instituted. No other officer or employee of the Office of Price Administration, whether employed in the principal Office in Washington, D. C., or in any regional or field office, is authorized to accept service of process on behalf of the Price Administrator or enter his appearance in any action or proceeding, except as herein provided.

(c) Appearance for the Administrator in defensive suits. The General Counsel or the Acting General Counsel, the Director of the Enforcement Division or the Acting Director, and the Assistant General Counsel or the Acting Assistant General Counsel in charge of the Court Review, Research and Opinion Division are each authorized to appear for and represent the Price Administrator or the Office of Price Administration in any action or proceeding instituted against the Price Administrator or the Office of Price Administration in the Emergency Court of Appeals and in proceedings for the review of determinations of the Emergency Court of Appeals in the Supreme Court; and any of them may specifically authorize any attorney employed by the Office of Price Administration to appear for and represent the Price Administrator or the Office of Price Administration in any such action or proceedings. The General Counsel or the Acting General Counsel, and the Director of the Enforcement Division or the Acting Director are each authorized

to appear for and represent the Price Administrator or the Office of Price Administration in any other action or proceeding instituted against the Price Administrator, or the Office of Price Administration; and any of them may specifically authorize any attorney employed by the Office of Price Administration to appear for and represent the Price Administrator or the Office of Price Administration in any other such action or proceeding.

GEORGE J. BURKE,

Acting Administrator

Mr. William C. McCulloch: Mark these for identification.

Mr. Bischoff: Now for identification, Exhibit No. 13, letter dated June 8th, 1944, West Side Lumber Company to Office of Price Administration.

(The copy of letter dated June 8, 1944, West Side Lumber Company by G. R. Barker, Vice-President, to Office of Price Administration, Lumber Division, Washington, D. C., so offered, was marked Plaintiff's Exhibit 13 for identification.)

PLAINTIFF'S EXHIBIT NO. 13

Phone 2369

Phone 2836J2

WEST SIDE LUMBER CO.

Lumber Manufacturers

Eugene, Oregon

June 8, 1944

Office of Price Administration,

Lumber Division,

Washington, D. C.

Gentlemen:

In accordance with request of Mr. Jerome S. Bischoff, of Portland, Oregon, O.P.A. office, we wish to submit the following request for special price authorization for 2" Dimension S1S2E 1½" hit-and-miss.

In 1943 we entered order delivered destination, based on following FOB values, freight to be added on weights shown per M feet:

"Ceiling" prices as per O.P.A. regulation #26 effective 1943, for 2" Dimension S1S2E 1½" Standard width

	#2 Com	Para. 215	Para. 215 and 301	Select Merch.	Select Merch. and 301	Weight
2x4 -6/20'	26.50	30.50	32.50	31.50	33.50	2250#
2x6 - "	26.50	30.50	32.50	31.50	33.50	2350#
2x8 - "	25.50	29.50	31.50	30.50	32.50	2350#
2x10- "	25.50	29.50	31.50	30.50	32.50	2400#
2x12- "	25.50	29.50	31.50	30.50	32.50	2400#

Lengths over 20 ft. at list difference.

Weights shown are as per OPA authorization for the dressing shown.

We trust it may be possible for you to favor us with an early decision as to the correctness of the price basis shown.

Yours very truly,

WEST SIDE LUMBER
COMPANY,

By /s/ G. R. BARKER
Vice-President

CC: Jerome S. Bischoff,
OPA Office
Portland, Ore.

Mr. Bischoff: I now offer No. 14 for identification, letter, Peter A. Stone, Price Executive, Lumber Branch, OPA, to West Side Lumber Co., dated June 22nd, 1944.

(The copy of letter dated June 22, 1944, Peter A. Stone, Price Executive, Lumber Branch, to West Side Lumber Co., so offered, was marked Plaintiff's Exhibit 14 for identification.)

PLAINTIFF'S EXHIBIT NO. 14

Jun 22 1944

West Side Lumber Co.

Eugene Oregon

Gentlemen:

This acknowledges your letter of June 8 in which you list 2" sizes and grades sold during 1943 and SES2E to 1½" x Standard widths.

As is the case as present, during 1943 when MPR26 was effective, sellers of sizes, grades or services of any description not priced in this regulation were required to make application to this Office for and obtain an approved price before such sales were consummated.

In the case of the sales you refer to, no such application was made to this Office and no price can be approved at this time.

Very truly yours,

PETER A. STONE

Price Executive

Lumber Branch

CC: Jerome S. Bischoff

Chief, Lumber Enforcement Unit

Bedell Building

Portland (4)

Mr. Bischoff: Next, No. 15 for identification, letter dated August 3, 1944, Peter A. Stone to West Side Lumber Company.

(The copy of letter dated August 3, 1944, Peter A. Stone, Price Executive, Lumber Branch, OPA, to West Side Lumber Company, so offered, was marked Plaintiff's Exhibit 15 for identification.)

PLAINTIFF'S EXHIBIT NO. 15

(Copy)

Aug 3 1944

West Side Lumber Company

Eugene

Oregon

In reply refer to 6073:30:AIM RMPR 26

Gentlemen:

This refers to your letter of June 8, 1944, requesting us to establish a price for common grades of Douglas Fir dressed hit and miss green to 11½' and shipped and invoiced by you as 2" lumber during a period from June to October 1943, inclusive.

Under date of June 22, 1944, we replied to your letter pointing out that inasmuch as request for price approval had not been made prior to shipment that we felt that we could not establish prices at this time.

We are now advised by Acting Chief Counsel that in view of your request for the establishment of prices that we are required to comply.

Under Section 12, RMPR 26, we herewith approve as effective during the period from June to October, 1943, inclusive, the following prices, f.o.b. car mill, and weights on which freight charges should be estimated in arriving at delivered prices.

Size Invoiced				*Approved Invoice Size	Approved Prices	
					#2	#1 & Btr.
2x4	6/20'	S1S2E, Hit and Miss to	1½x3⅝	1⅝x4	\$26.50	\$28.50
2x6	"	"	1½x5⅝	1⅝x6	26.50	28.50
2x8	"	"	1½x7½	1⅝x8	25.50	27.50
2x10	"	"	1½x9½	1⅝x10	25.50	27.50
2x12	"	"	1½x11½	1⅝x12	25.50	27.50

Permissible Estimated Weights:

1 $\frac{5}{8}$ x4	S1S2E, Hit & Miss to	1 $\frac{1}{2}$ x3 $\frac{5}{8}$ "	-----	2800 lbs.
1 $\frac{5}{8}$ x6	“ “ “	1 $\frac{1}{2}$ x5 $\frac{5}{8}$	-----	2850 lbs.
1 $\frac{5}{8}$ x8	“ “ “	1 $\frac{1}{2}$ x7 $\frac{1}{2}$	-----	2900 lbs.
1 $\frac{5}{8}$ x10	“ “ “	1 $\frac{1}{2}$ x9 $\frac{1}{2}$	-----	2900 lbs.
1 $\frac{5}{8}$ x12	“ “ “	1 $\frac{1}{2}$ x11 $\frac{1}{2}$	-----	2950 lbs.

* Example of computation of approved size to be used in invoicing:

1 piece 1⅝x8-12' = 13' rather than 16' as 2x8

The prices herewith approved are based upon the following facts:

a. Surfacing 2" green lumber to 1½" would constitute an unwarranted waste never condoned by industry practice and which cannot be approved by this office.

b. ⅛" is sufficient tolerance between dressed size and nominal rough size when "hit and miss" dressing is permissible and both the dressed and rough size is green.

c. Grade paragraphs 215, Select Merchantable, and 301 are designed for stress and durability, and in a case such as this where substandard sizes are sold, such sizes offset any practical grade improvement that would otherwise be accomplished by these paragraphs. Hence, we cannot find justification for approving any price higher than No. 1.

d. Weight approval is under "Shipping Weight Formula for Sizes Not Listed" of which the following is an example:

$11\frac{1}{2} \times 3\frac{3}{8}$ is 83.6% of $15\frac{1}{8} \times 4$; green weight of $15\frac{1}{8} \times 4$ is 2300 lbs., hence the weight of $11\frac{1}{2} \times 3\frac{3}{8}$ is 83.6% of 3300 lbs., or 2800 lbs. (adding next higher even 50 lbs. to actual computation.)

Sincerely yours,

PETER A. STONE

Price Executive

Lumber Branch, OPA

AIMICHELL/ek

7-23-44

Mr. Bischoff: I think that is all. [54]

Mr. William C. McCulloch: That is all.

(At 12:09 o'clock P. M., the Court returned to the bench and the following further occurred:)

The Court: What are these letters you want, Mr. McCulloch, letters between Mr. Stone and Mr. Bischoff?

Mr. William C. McCulloch: Any communications that, your Honor, had reference to——

The Court: No, no. Between whom?

Mr. William C. McCulloch: Mr. Stone or his office and Mr. Bischoff or his office, on this particular subject of a special retroactive price.

The Court: I deny the request and allow an exception.

(At this point the Court excused the Court Reporter and the argument was not reported.)

[55]

[Title of District Court and Cause.]

REPORTER'S CERTIFICATE

I, Alva W. Person, hereby certify that I reported all of the evidence given and oral proceedings had except the arguments at the conclusion of the evidence upon the trial of the above entitled cause before the Honorable Claude McColloch, Judge of the above entitled Court, on Tuesday, December 5, 1944; that I thereafter caused my shorthand notes to be reduced to typewriting, and the foregoing and hereto attached 55 pages of typewritten matter, numbered 1 to 55, both inclusive, constitute a full, true and accurate record of all of the oral proceedings had and evidence given upon said trial, except the arguments following the conclusion of the evidence.

Dated at Portland, Oregon, this 9th day of December, A. D. 1944.

(Sgd) ALVA W. PERSON

Court Reporter.[56]

[Endorsed]: Filed Dec. 9, 1944.

[Endorsed]: No. 11023. United States Circuit Court of Appeals for the Ninth Circuit. Chester Bowles, Administrator, Office of Price Administration, Appellant, vs. Patrick Lumber Company, a corporation, Appellee. Transcript of Record. Upon appeal from the District Court of the United States for the District of Oregon. Filed April 3, 1945.

PAUL P. O'BRIEN

Clerk of the United States Circuit Court of Appeals
for the Ninth Circuit.

In the United States Circuit Court of Appeals
for the Ninth Circuit

No. 11023

CHESTER BOWLES, Administrator, Office of
Price Administration,

Appellant,

v.

PATRICK LUMBER COMPANY, a corporation,
Appellee.

DESIGNATION OF PORTION OF
RECORD TO BE PRINTED

Comes now the appellant and designates for printing the entire record heretofore designated as the record on appeal in the Court below, except Item No. 6, "Order Denying Motion for Supplementary Findings of Fact and Conclusion of Law",

and Item No. 12, "Transcript Proceeding March 19, 1945", as described in said designation of record in the Court below.

Dated: April 14, 1945.

DAVID LONDON,

Acting Regional Litigation
Attorney

FRANZ E. WAGNER

District Enforcement Attor-
ney

[Title of Circuit Court and Cause.]

STATEMENT OF POINTS TO BE RELIED
UPON ON APPEAL

Comes now the appellant and designates the following statement of points to be relied upon on this appeal:

1. The District Court erred in finding that the prices charged by defendant for the three cars of lumber described in the complaint did not exceed the maximum prices applicable thereto under the provisions of Revised Maximum Price Regulation No. 26.

2. The District Court erred in concluding that the defendant did not violate the Emergency Price Control Act of 1942 or any regulation, order or price schedule issued thereunder.

3. The District Court erred in concluding that the complaint should be dismissed.

Dated: April 14, 1945.

DAVID LONDON

Acting Regional Litigation

Attorney

FRANZ E. WAGNER

District Enforcement Attor-

ney

[Endorsed]: Filed Apr. 10, 1945. Paul P.
O'Brien, Clerk.

No. 11,023

IN THE

United States Circuit Court of Appeals

For the Ninth Circuit

CHESTER BOWLES, Administrator, Office of
Price Administration,

Appellant,

VS.

PATRICK LUMBER COMPANY
(a corporation),

Appellee.

BRIEF FOR APPELLANT.

GEORGE MONCHARSH,

Deputy Administrator for Enforcement,

FLEMING JAMES, JR.,

Director, Litigation Division,

DAVID LONDON,

Chief, Appellate Branch,

Office of Price Administration,

Washington, D. C.,

HERBERT H. BENT,

Acting Regional Litigation Attorney,

JEROME S. BISCHOFF,

Chief, Lumber Enforcement Unit,

San Francisco, California,

Attorneys for Appellant.

SAMUEL MERMIN,

Special Appellate Attorney,

Washington, D. C.,

Of Counsel.

FILED

JUL 25 1945

PAUL P. O'BRIEN,

CLERK

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No. 11,023

IN THE

United States Circuit Court of Appeals

For the Ninth Circuit

CHESTER BOWLES, Administrator, Office of
Price Administration,

Appellant,

vs.

PATRICK LUMBER COMPANY
(a corporation),

Appellee.

BRIEF FOR APPELLANT.

JURISDICTION.

This is an appeal by the Price Administrator from a judgment of the United States District Court for the District of Oregon in an action by the Price Administrator under the Emergency Price Control Act of 1942 (56 Stat. 23) as amended by the Stabilization Extension Act of 1944 (58 Stat. 636) seeking damages under Section 205(e) as amended (50 U.S.C.A. Sec. 925(e)). The judgment dismissing the action was entered December 18, 1944 (R. 10). Notice of appeal was filed February 24, 1945 (R. 11).

Jurisdiction of the District Court was invoked under Section 205(c) of the Act (50 U.S.C.A. Sec. 925(c)) as indicated in the complaint (R. 2) and

jurisdiction of this Court is invoked under Section 128 of the Judicial Code (28 U.S.C. Sec. 225).

STATUTES AND REGULATIONS INVOLVED.

The action involves the Emergency Price Control Act of 1942 and Revised Maximum Price Regulation No. 26 ("Douglas Fir and Other West Coast Lumber") issued thereunder (8 F.R. 7570).

1. The Statute.

Pertinent provisions of the Emergency Price Control Act as amended are as follows:

"Sec. 4(a). It shall be unlawful, regardless of any contract, agreement, lease, or other obligation heretofore or hereafter entered into, for any person to sell or deliver any commodity, or in the course of trade or business to buy or receive any commodity, or to demand or receive any rent for any defense-area housing accommodations, or otherwise to do or omit to do any act, in violation of any regulation or order under section 2, or of any price schedule effective in accordance with the provisions of section 206, or of any regulation, order, or requirement under section 202(b) or section 205(f), or to offer, solicit, attempt, or agree to do any of the foregoing."

* * * * *

"Sec. 204(d). * * * Except as provided in this section, no court, Federal, State, or Territorial, shall have jurisdiction or power to consider the validity of any such regulation, order or price schedule, or to stay, restrain, enjoin, or set aside, in whole or in part, any provision of this Act au-

thorizing the issuance of such regulations or orders, or making effective any such price schedule, or any provision of any such regulation, order, or price schedule, or to restrain or enjoin the enforcement of any such provision.”

* * * * *

“Sec. 205(e). If any person selling a commodity violates a regulation, order, or price schedule prescribing a maximum price or maximum prices, the person who buys such commodity for use or consumption other than in the course of trade or business may, *within one year from the date of the occurrence of the violation, except as hereinafter provided, bring an action against the seller on account of the overcharge. In such action, the seller shall be liable for reasonable attorney’s fees and costs as determined by the court, plus whichever of the following sums is the greater: (1) Such amount not more than three times the amount of the overcharge, or the overcharges, upon which the action is based as the court in its discretion may determine, or (2) an amount not less than \$25 nor more than \$50, as the court in its discretion may determine: Provided, however, That such amount shall be the amount of the overcharge or overcharges or \$25, whichever is greater, if the defendant proves that the violation of the regulation, order, or price schedule in question was neither wilfull nor the result of failure to take practicable precautions against the occurrence of the violation.*¹ For the

¹As amended by Section 108(b) of Stabilization Extension Act of 1944, 58 Stat. 636. Formerly read, in place of italicized language:

“* * * bring an action either for \$50 or for treble the amount by which the consideration exceeded the applicable maximum price, whichever is the greater, plus reasonable attorney’s fees and costs as determined by the Court.”

purposes of this section the payment or receipt of rent for defense-area housing accommodations shall be deemed the buying or selling of a commodity, as the case may be; *and the word 'overcharge' shall mean the amount by which the consideration exceeds the applicable maximum price.*² If any person selling a commodity violates a regulation, order, or price schedule prescribing a maximum price or maximum prices, and the buyer *either fails to institute an action under this subsection within thirty days from the date of the occurrence of the violation or is not entitled for any reason to bring the action, the Administrator may institute such action on behalf of the United States within such one-year period. If such action is instituted by the Administrator, the buyer shall thereafter be barred from bringing an action for the same violation or violations. Any action under this subsection by either the buyer or the Administrator, as the case may be, may be brought in any court of competent jurisdiction. A judgment in an action for damages under this subsection shall be a bar to the recovery under this subsection of any damages in any other action against the same seller on account of sales made to the same purchaser prior to the institution of the action in which such judgment was rendered.*³ [*The amend-*

²Added by Section 108(b) of Stabilization Extension Act of 1944.

³As amended by Section 108(b) of Stabilization Extension Act of 1944. Formerly read, in place of italicized language:

"* * * is not entitled to bring suit or action under this subsection, the Administrator may bring such action under this subsection on behalf of the United States. Any suit or action under this subsection may be brought in any court of competent jurisdiction, and shall be instituted within one year after delivery is completed or rent is paid. The provisions of this subsection shall not take effect until after the expiration of six months from the date of enactment of this Act."

*ment made by subsection (b), insofar as it relates to actions by buyers or actions which may be brought by the Administrator only after the buyer has failed to institute an action within thirty days from the occurrence of the violation, shall be applicable only with respect to violations occurring after the date of enactment of this act. In other cases, such amendment shall be applicable with respect to proceedings pending on the date of enactment of this Act and with respect to proceedings instituted thereafter.]"*⁴

2. The Regulation (RMPR 26, 8 F.R. 7570).

"Sec. 1. Prices higher than ceiling prohibited.

(a) On and after June 9, 1943, regardless of any contract or other obligation, no person shall sell or deliver, and no person shall buy or receive in the course of business, any Douglas fir or other West Coast Lumber for direct-mill shipment at prices higher than the maximum prices fixed by this regulation, and no person shall agree, offer, or attempt to do any of these things.

"Sec. 2. What products are covered. (a) This regulation covers all Douglas fir (Pseudotsuga taxifolia), West Coast hemlock (Tsuga heterophylla and Tsuga mertensiana) and all species of true fir (abies) lumber produced in those parts of Oregon, Washington, and Canada lying west of the crest of the Cascade Mountains, and in California and Alaska. Any such lumber produced in these areas is covered, regardless of the kind of mill or plant in which it is produced.

⁴Matter in brackets added by Section 108(c) of Stabilization Extension Act of 1944. The reference to "subsection (b)" is to Section 108(b) of that Act.

“The regulation applies whether the particular item is specifically priced in the price tables or not (except switch ties and cross ties, which are covered in Maximum Price Regulation 284—Western Primary Forest Products).”

* * * * *

“Sec. 3. *What transactions are covered—*(a) *Direct-mill shipments.* This ceiling applies to all shipments originating at a mill, no matter who the seller is, and no matter whether he usually is known as a mill, wholesaler, retailer or anything else. It does not apply to sales out of distribution yard stock. (The prices for yard sales may be found either in Maximum Price Regulation No. 215 or in the General Maximum Price Regulation, depending on the nature of the sale and the purchaser.) A shipment is regarded as originating at a mill if the lumber reaches the purchaser without ever becoming an integral part of the stock of a distribution yard. * * *

* * * * *

“Sec. 4. *What persons are covered.* Any person who makes the kind of sale or purchase described above, for himself or others, is subject to this regulation. The term ‘person’ includes an individual, corporation, partnership, association or any other organized group, their legal successors and representatives, the United States or any government or any of their political subdivisions or any agency of any of the foregoing.

* * * * *

“Sec. 5. *Basic prices and cash discount—*(a) *Basic prices.* The maximum prices f.o.b. mill are set forth in Article V—Price Tables.

* * * * *

✓ Sec. 12. *Grades, services, or extras not listed.*

(a) If a seller wishes to sell a grade which is not specifically priced in the price tables, or wishes to make an addition for special workings, specifications, services, or other extras for which additions are not specifically permitted, he must apply to the Lumber Branch, Office of Price Administration, Washington, D.C., for a maximum price. He must provide the following information:

- (1) The requested price;
- (2) A complete description of the item to be priced;
- (3) The price differential between it and the most comparable item in the price tables, between October 1, 1941 and June 1, 1942, from the seller's own records, or if that is impossible, from the experience of the trade. If no established price differential existed, a detailed analysis of comparative value should be furnished.

(b) As soon as the request has been filed, quotations and deliveries may be made at the requested price, but the final payment may not be made until the price has been approved. Action on the request may be by letter or telegram.

(c) In all cases where special prices have been approved by the Lumber Branch of the Office of Price Administration under sec. 1381.62, paragraph (g) of the earlier regulation Maximum Price Regulation 26, these special prices shall no longer apply if specific prices for the items are established by this regulation; but if no specific prices are established in the price tables, the price approved under the earlier regulation shall continue in effect.

* * * * *

"Sec. 22. *Grades.* All grade and size terms and 'paragraph' references appearing in this regulation refer to, and have the meaning given in, the Standard Grading and Dressing Rules No. 12, issued by the West Coast Lumbermen's Association, effective March 1, 1943, or, in the case of export sales from the 'N' list, to the 'N' Export Grading Rules adopted by the West Coast Lumbermen's Association and British Columbia Lumber and Shingle Manufacturers, Ltd., 1929.

Article V—Price Tables

"Sec. 23. *Douglas fir.* The maximum prices for Douglas fir lumber f.o.b. mill per one thousand feet board measure (or other designated measure where so indicated) where shipment originates at a mill, shall be as follows:

CONSTRUCTION GRADES

Table I—Boards and Shiplap

* * * * *

Table 2—Dimension

No. 1, Green, Rough or S4S, A.L.S.

Regular Loading	6' to 20'	6'	8'	9'	10'	12'	14'	16'	18'	20'	22' to Ad 24' dr
2 x 2"	\$31.50	\$24.00	\$30.00	\$33.50	\$32.00	\$32.00	\$32.00	\$34.50	\$34.50	\$34.50	\$38.00
2 x 3"	28.50	21.00	27.00	30.50	29.00	29.00	29.00	31.50	31.50	31.50	35.00
2 x 4"	28.50	21.00	28.50	29.00	28.00	28.50	28.50	29.50	29.50	29.50	32.00
2 x 6"	28.50	21.00	26.50	28.50	27.00	28.50	28.50	29.00	29.00	29.00	31.00
2 x 8"	27.50	20.00	26.00	27.00	26.00	27.50	27.50	27.50	27.50	27.50	29.50
2 x 10"	27.50	20.00	26.00	28.00	26.50	28.00	28.00	28.50	28.50	28.50	30.50
2 x 12"	27.50	20.00	26.00	28.00	27.00	28.00	28.00	28.50	28.50	28.50	30.50

Grades

1. Scaffold Plank, paragraph 289, add \$20.00 per M to the select structural price.

✓ 2. Select Merchantable add to the price of No. 1 same width and length—\$3.00.

✓ 3. Select Structural add to the price of No. 1 same width and length—\$5.00.

✓ 4. No. 2 green all widths and lengths 24' and shorter deduct \$2.00 per M from the No. 1 green of the same width and length.

5. No. 3 green 2 x 2" to 2 x 8", 24' and shorter deduct \$8.00 per M from the No. 1 green of the same width and length.

6. No. 3 green 2 x 10" and 2 x 12", 24' and shorter deduct \$9.00 per M from the No. 1 green of the same width and length.

7. No. 2 dry all widths and lengths 24' and shorter deduct \$4.00 per M from the No. 1 dry of the same width and length.

8. No. 3 dry 2 x 2 to 2 x 8, 24' and shorter deduct \$10.00 per M from the No. 1 dry of the same width and length.

9. No. 3 dry 2 x 10 and 2 x 12, 24' and shorter deduct \$11.00 per M from the No. 1 price of the same width and length.

10. No. 1 permitting up to 15% of No. 2 deduct \$0.50 per M from the No. 1 price of the same width and length.

11. No. 4 rough or surfaced, Dry or Green, 2xaw, at \$12.50. Dry or Green use green weights.

✓ 12. Paragraph 215, 1200 F (Bending stress) add \$2.00 per M to the No. 1 price of the same size.

13. Paragraph 216.900 F (Bending stress) add \$1.00 per M to the No. 2 price of the same size.

Lengths

14. Omitting short length in R/L loading add to the R/L price of the same size and grade:

6' and 8' and/or 10'\$0.50

12' and shorter..... 1.00

14' and shorter at specified length price.

15. Odd or fractional length add \$1.00 to and compute footage on next longer even length.

16. For even lengths longer than 24' add \$2.00 per M for each two feet longer than 24' of the same size and grade.

Widths

17. Wider than 12" add \$1.00 for each 2" wider than 12" for the same size and grade.

18. Odd or fractional widths add \$1.00 to and compute footage on next wider even width except 2 x 3.

Thicknesses

19. Fractional thicknesses over 2" and under 3" price from the table for plank and small timbers by adding \$3.00 per M to the 3" price of the same length, width and grade. Compute footage on actual rough measure.

Working charges

20. Surfaced $\frac{1}{4}$ " off add \$1.00 per M to the same length, width and grade.

21. Ripping or resawing, not diagonal or tapered; for 2 x 4" add \$2.00 per M; 2 x 6" and wider add \$1.00 per M. Diagonal or tapered resawing add \$5.00 per M. In either instance, the product of the strip to be shipped.

22. Center matched, flooring, outgauged and other patterns. The following working charges contemplate first adding grade differentials and then the specified working charge.

	Green		Dry	
	S2S and CM or S/L	Flooring, outgauged or other patterns	S2S and CM or S/L	Flooring, outgauged or other patterns
2" thickness, no droppings allowed	\$1.00	\$2.00	\$1.50	\$2.50
2" thickness droppings included at no reduction in price....	.50	1.00	.50	1.00

23. For S1S, S1E, S2S, S2E, S1S1E, S2S1E or S1S2E A.L.S. add \$1.00 per M BM. Addition limited to orders specifying one grade only.⁵

Miscellaneous

24. Rough dry add \$1.00 per M to the S4S dry price."

STATEMENT OF THE CASE.

This suit for treble damages arises out of the sale of three cars of lumber by defendant Patrick Lumber Company to the John Schroeder Lumber and Supply Company. Defendant-appellee is a wholesaler who bought the lumber from the mill (West Side Lumber Co.) and resold to his customer without physically handling the lumber—i.e., it was a "direct-mill shipment". The three invoices (Exhibits 3-5, R. 64-66)

⁵As amended by Amendment 2, effective August 24, 1943 (8 F.R. 11508). Formerly read: For S1E, S2E, S1S, S2S or S1S1E ALS, add \$1.00 per M.

were dated September 3, 1943, September 16, 1943, and October 7, 1943. Revised Maximum Price Regulation 26 (8 F.R. 7570), hereinafter referred to as "the Regulation", became effective June 9, 1943 (superseding Maximum Price Regulation 26, 7 F.R. 4573, which had been in effect since June 29, 1942). Defendant-appellee claims that he properly determined the ceiling price applicable to these sales by reference to Table 2 of the Regulation rather than by special application to the Office of Price Administration (R. 100, 104). The Price Administrator claims that since the lumber was surfaced one side to $1\frac{1}{2}$ "—a specification which is not specifically priced in Table 2, then Section 12 of the Regulation came into play, under which, application would have to be made to the Office of Price Administration for approval of a price.

When the Administrator discovered that defendant-appellee had failed to apply for a price applicable to these transactions, the mill involved (whose ceiling price is the same as the wholesaler's—see Sec. 3 of the Regulation) was requested to file such an application. Acting on this application (R. 128) for approval of the prices which had been charged by the mill and defendant wholesaler in the allegedly violative transactions, the Office of Price Administration established prices lower than those requested (R. 131). The difference between the prices thus established and the prices actually charged is the overcharge forming the basis of this action.

The action was tried before the Court without a jury, and Judge McCulloch concluded that defendant-

appellee did not violate the Act or the Regulation, hence the action should be dismissed (R. 9).

The sole issue is one of interpretation of the Regulation. It was agreed in open Court that "the arithmetic of the overcharges as set forth in the complaint is stipulated as correct" (R. 71). In other words there is no issue here of whether, or to what extent, the prices actually charged by defendant-appellee are higher than the maximum prices approved by the Office of Price Administration pursuant to the mill's application under Section 12. It is agreed that they are higher, and the amount of the difference is also agreed to. The issue is: which of the two parties has correctly construed the Regulation in arriving at the maximum prices contended for? Does Table 2 apply, as defendant-appellee contends, or does Section 12 apply, as the Administrator contends? And if Section 12 applies, is it a correct construction of that section to say that it contemplates application of the mill prices approved by the Administrator to wholesaler transactions already consummated?

The reason for Judge McCulloch's dismissal of the action was that he did "not feel convinced by a preponderance of the evidence that the interpretation of the regulations advanced by Mr. Jayne, and espoused by Mr. Bischoff, is the correct interpretation, as opposed to the interpretation acted upon by Patrick, Brushoff, Edwards and the mill. The failure to sustain the burden of proof on the major issue makes it unnecessary to decide other questions" (R. 7).

SPECIFICATIONS OF ERROR.

1. The Court below erred in finding that the prices charged by defendant-appellee for the lumber involved did not exceed the maximum prices prescribed in Revised Maximum Price Regulation 26.

2. The Court below erred in concluding that defendant-appellee "did not violate the Emergency Price Control Act of 1942 or any regulation, order, or price schedule thereunder".

3. The Court below erred in concluding that the suit should be dismissed.

ARGUMENT.

I. DEFENDANT-APPELLEE'S SALES OF THE LUMBER INVOLVED IN THIS SUIT WERE SUBJECT TO THE PROVISIONS OF SECTION 12 OF THE REGULATION RATHER THAN TO TABLE 2.

The "dimension" lumber involved in this suit is a construction type of Douglas fir which, according to the invoices (Exhibits 3-5, R. 64-66) was surfaced on one side (S1S), "hit and miss" (H & M) to a thickness of $1\frac{1}{2}$ ". The two edges were also surfaced (S2E); and the various grades included in the shipment were "select structural" (Sel Str), "select merchantable" (Sel Mer), "Paragraph 215" (Pa. 215), and "No. 2 Common" (#2 Com). The above symbols appearing on the invoices are given (Section 22 and Table 2, note 23 of the Regulation) the meanings set forth in Standard Grading and Dressing Rules No. 12, issued by the West Coast Lumbermen's Association effective March

1, 1943 (Exhibit 2), and the American Lumber Standards (Exhibit 1), and are explained in the testimony (R. 68-69).

The maximum prices in the text of Table 2 of the Regulation during the period of these violations (September 3-October 7, 1943) were applicable to "No. 1" common, green dimension lumber, 2" thickness, either unsurfaced ("*rough*") or surfaced four sides (S4S), with face widths from 2" to 12" and of various specified lengths; and additions or deductions were listed in the notes to the table, to cover variations from these standard listings. (See Text, *supra*, p. 8, and R. 78 ff). Note 23^a provided: "For S1S, S2E, S2S, S1S1E, S2S1E, or *S1S2E A.L.S.* add \$1 per M BM. Addition limited to orders specifying one grade only." (Emphasis supplied.)

Thus it is apparent that Table 2 did not cover the 1½" thickness lumber involved in the instant transactions. The text of the table (which applied only to No. 1, rough or S4S) was inapplicable, and the prices established in the notes for the various qualities here involved ("select structural", "select merchantable", etc.) and for the S1S2E surfacing involved (Note 23) were also inapplicable,—since *all* dimension lumber, of whatever quality or surfacing, has a standard, minimum thickness when surfaced at all, of 1⅝" (American Lumber Standards, Exhibit 1, R. 61-62, 70-71; Grading Rules, Exhibit 2 (not printed in Record), p. 142; R. 70).

^aAs amended by Amendment 2, effective August 24, 1943—8 F.R. 11508.

Under such circumstances, Section 12 of the Regulation becomes applicable. As stated in Section 2, "The regulation applies whether the particular item is specifically priced in the price Tables or not." Section 12 is the section designed to cover the pricing of all items of dimension lumber which are not specifically priced in the table. This section provides:

"Sec. 12. Grades, services, or extras not listed.

(a) If a seller wishes to sell a grade which is not specifically priced in the price tables, or wishes to make an addition for special workings, specifications, services, or other extras for which additions are not specifically permitted, he must apply to the Lumber Branch, Office of Price Administration, Washington, D.C. for a maximum price. He must provide the following information.

- (1) The requested price;
- (2) A complete description of the item to be priced;
- (3) The price differential between it and the most comparable item in the price tables, between October 1, 1941 and June 1, 1942, from the seller's own records, or if that is impossible, from the experience of the trade. If no established price differential existed, a detailed analysis of comparative value should be furnished.

(b) As soon as the request has been filed, quotations and deliveries may be made at the requested price, but the final payment may not be made until the price has been approved. Action on the request may be by letter or telegram."

An indication, at this point, of the history of this section may be helpful. An early version of the Regulation reads as follows (OPA Service, p. 39:290-H):

“Sec. 1381.62(g)(2). No *addition* may be made for workings, *specifications*, services, or extras not expressly provided for in §1381.62: Provided, That the seller may apply to the Lumber Branch of the Office of Price Administration in Washington, D.C. for approval of additions for workings, specifications, services or other extras not provided for. In such application the seller shall describe in detail the workings, specifications, services or other extras not provided for together with a statement showing how the addition requested was determined and that the proposed addition was regularly made immediately prior to October 1, 1941, for the particular or similar working, specification, service or extra together with a certified copy of order or invoice of a representative sale on which such an addition or similar addition was made. Pending approval of such addition, the seller may quote and deliver at a price which is agreed by the parties to be subject to adjustment to the price approved by the Office of Price Administration, but the seller may not accept payment and the purchaser may not make payment until approval of such addition in writing has been received.” (Emphasis added.)

This was construed as follows by the OPA (OPA Service, p. 39:5013):

“*Unlisted grades*. The maximum prices for *grades* of lumber which are cheaper than any *item* listed in the price tables and which are not de-

scribed in the W.C.L.A. grading rules, are established by sec. 1381.62(g)(2), of the Regulation. *The word 'additions' referred to in that Section should be interpreted as 'prices', since no addition is made but rather a price established which is not higher than the cheapest related grade. For instance, the cheapest related grade for 'E' flooring is No. 3, Common Boards and the maximum price approved by OPA for 'E' flooring will be no higher than that for No. 3 Common Boards.'*" (Emphasis added.)

Thus, the word "grade" is used interchangeably with "item"; and the word "additions" is to be construed as "prices". Later, the net result of this interpretation was specifically embodied in Amendment 9 (7 F.R. 8877), October 30, 1942.⁸

⁷Cf. similar view expressed in Statement of Considerations for Amendment 6 to Section 1381.62(g)(1) (this section appears in the note at OPA service, p. 39:290-G), where provisions applicable to "grades and classes of lumber" and to "additions" were described as provisions "under which maximum prices are established for *any item* of Douglas fir or other West Coast lumber not specifically priced in the Regulation." (OPA Service, p. 39:304.)

⁸"For *prices* of workings, *specifications*, special *grades*, services, or extras *not otherwise provided for* in this section, the seller shall apply to the Lumber Branch of the Office of Price Administration in Washington, D.C. for an authorized price. In such application the seller shall * * *

"The Office of Price Administration shall within 30 days of the receipt of the application, either authorize the requested price or authorize a price which is deemed proper. Authorization may be by letter or telegram. If the Office of Price Administration does not within 30 days either authorize a price or require further justification of the requested price, the requested price shall be considered approved.

"Pending approval of such price, the seller may quote and deliver at a price which is agreed by the parties to be subject to adjustment to the price approved by the Office of Price Administration, but the seller may not accept payment and the buyer may

It so happens that in the general revision of the Regulation, the draftsman fell back on some of the original language, which existed prior to Amendment No. 9, so that Section 12 of Revised Maximum Price Regulation No. 26 reads, "If a seller wishes to sell a grade which is not specifically priced in the price tables, or wishes to make an addition for special workings, specifications * * * he must apply * * * (etc.)." *But this use of "grade" and "additions" had previously been clarified by interpretation.* As we have seen, "grade" was used interchangeably with "item"; and "addition" had the same effect as though the word "price" had been used.

Moreover, the record of the present case shows clearly that the "grades" listed in the Tables of the Grading Rules *have meaning only in relation to different sizes.* Size is one of the elements of the definitions (see R. 72-73, 87-88; Exhibit 2, Par. 193-197). Thus defendant-appellee himself recognized that "face-width" was one of the "elements of grade or quality" (R. 91), since quality may vary with size. Further, Section 12(c) provides for continuation of the special prices previously established (unless spe-

not make final payment until a price has been authorized." (Emphasis added.)

The Statement of Considerations accompanying Amendment No. 9 (OPA Service 39:305) observes:

"A change is made in the phrasing of subparagraph (2) of paragraph (g) in Section 1381.62. The change is to make it clear that all sales of Douglas fir and other West Coast lumber calling for grades, specifications, workings, or other extras not otherwise provided for, are covered by that subparagraph and may be priced under that subparagraph. This change is effected by substituting for the word 'additions', the word 'prices'."

cific prices are established by the new regulation) and again the units for which special prices are established are referred to broadly as "items".⁹

It cannot reasonably be argued that the change of language occurring in the revised regulation was intended to effectuate a departure from the previous rule. So important a departure would certainly have been mentioned in the Statement of Considerations for the revised regulation but nothing in the Statement shows any intent to make such a departure (see OPA Service, p. 39:310-A). As is the case in the construction of statutory amendments, changed language which on its face might betoken a change in intent will not be so construed where the background or history of the change negates a departure from original intent. See *United States v. Dickerson*, 310 U. S. 554, 60 S. Ct. 1034.¹⁰

⁹Section 12(c) :

"In all cases where special prices have been approved by the Lumber Branch of the Office of Price Administration under Section 1381.62, paragraph (g), of the earlier regulation Maximum Price Regulation No. 26, these special prices shall no longer apply if specific prices *for the items* are established by this regulation; but if no specific prices are established in the price tables, the price approved under the earlier regulation shall continue in effect." (Emphasis added.)

¹⁰This case involved the question of whether the right to certain re-enlistment allowances had been suspended. A re-enlistment allowance provided for by an Act of 1922 had been *specifically suspended* for four successive years by successive enactments; then there was a change in language so as merely to make certain *appropriations for that year* unavailable for the payment of the allowances, no suspension being made of the right given in the 1922 statute. In spite of the clearly restricted scope of the changed language, and the inference to be drawn from the very fact of change, the Court felt that the legislative history, showing that the changed language did not reflect a changed intent, was controlling.

Why, indeed, should such a departure from the original intent have been made? The basic structure of the Regulation, as we have shown, was the establishment of specific prices for specific items of dimension lumber; and for those not specifically priced, approval of a price was to be requested by application to the Office of Price Administration. What reason would there be for suddenly excluding from this basic plan the pricing of special sizes or specifications not specifically priced? In fact, the Administrator's experience has been that the overwhelming majority of applications for approval under the section have been precisely with respect to special sizes rather than special qualities or services. Obviously the intention of the Office of Price Administration is, and must sensibly be, to provide either a specific price or a means for the ultimate establishment of a specific price for *every* quality and size of dimension lumber sold. Since, then, the 11½" thickness was not specifically priced, every consideration of effective administration supports the view that Section 12, like the prototype in the earlier regulation, was intended to be applicable so that a price could ultimately be established by the Administrator.

A contrary construction would be untenable. It would mean either (1) the 11½" thickness was not covered at all by the regulation, or (2) it was covered by Table 2. In defendant-appellee's testimony he at one point seemed to suggest the first alternative. He said that the actual pricing of the lumber he had sold was designed to yield to the mill a compensation

equivalent to the price obtainable for the 3" planks from which the dimension lumber had been sawed (R. 104-06). In other words, the theory seemed to be that the item was unpriced, and therefore sellers were free to adopt any pricing rule that made sense to them. The mere statement of such a proposition is enough to show the travesty of price-control which would result from its acceptance. Moreover, this first alternative construction is made completely untenable by the provision of Section 2 that the regulation covers "all Douglas fir" and "applies whether the particular item is specifically priced in the price tables or not".

At another point in his testimony, defendant-appellee indicated acceptance of the second alternative. He stated that after considerable consultation and difference of opinion (R. 103) this 1½" substandard item was priced "on Table 2" (R. 104); apparently it was done by reference to the price for "normal 2-inch rough" (R. 100). But Table 2, as we have seen, applies in its text and notes to various qualities of dimension lumber of either 2" thickness ("rough") or 1⅝" thickness (surfaced one or more sides). *Nowhere is 1½" thickness specifically priced.* Defendant-appellee seems to read the regulation as though Table 2 established a basic price for *all* dimension lumber subject to any deductions or additions permitted in the notes; so that where no additions or deductions were permitted for a particular special size, the seller was allegedly free to use the basic price in the text of the table. This of course ignores the specific language of the heading of Table 2, and assigns to Table 2 the

role of Section 12 as the catch-basin for miscellaneous qualities, sizes, etc., not specifically priced.

Thus, each of the conflicting alternative constructions which might underlie defendant-appellee's rejection of the applicability of Section 12, cannot withstand analysis.

It is a familiar principle in the law of construction of statutes that where unreasonable or illogical consequences at variance with the purposes of the statute or with other evidence of intent follow from a literal reading of the language, a literal reading will not be given. "It is said that when the meaning of language is plain we are not to resort to evidence in order to raise doubts. That is rather an axiom of experience than a rule of law and does not preclude consideration of persuasive evidence if it exists." (Holmes, J. in *Boston Sand and Gravel Co. v. United States*, 278 U.S. 41, 48.) See *United States v. Dickerson*, 310 U.S. 544, 562, 60 S. Ct. 1034; *United States v. American Trucking Association*, 310 U.S. 534, 543-44, 60 S. Ct. 1059; *Takao Ozawa v. United States*, 260 U.S. 178, 194, 43 S. Ct. 65; *United States v. Katz*, 271 U.S. 354, 357, 46 S. Ct. 513; *Securities & Exchange Commission v. Sunbeam Gold Mining Co.*, 95 F. (2d) 699 (C.C.A. 9th). The "duty of the courts", as this Court has said, "is to ascertain the legislative intent 'not by taking the word or clause in question from its setting and viewing it apart, but by considering it in connection with the context, the general purposes of the statute in which it is found, the occasion and circumstances of its use, and other appropriate tests

for the ascertainment of the legislative will' '' (*Carter v. Liquid Carbonic Pacific Corp.*, 97 F. (2d) 1, 3 (C.C.A. 9th)). So, too, with the construction of written documents generally (9 *Wigmore*, Evidence (3rd Ed. 1940), Sec. 2461-2462).¹¹

It is worth noting, parenthetically, that the Administrator's construction works no "hardship" on defendant-appellee. He had operated from the inception of the original M.P.R. No. 26 under the same rule for pricing special sizes as the Administrator contends is applicable now; if the changed language of the revised regulation raised any doubts in his mind, *he would readily have dispelled them by inquiring of the OPA*. In this respect, uncertainty as to the meaning of an administrative regulation stands on a different footing from uncertainty as to the meaning of a statute. One cannot inquire of Congress what it meant; but the administrative agency is always available to clarify its meaning. Judicial acceptance of the Administrator's construction will be no imposition upon defendant-appellee for the further reason that if in fact his conduct is adjudged free from wilfulness and it is found that he did take practicable precautions to avoid the violations, then under Section 205(e)

¹¹The same is true of the maxim "expressio unius exclusio alterius". If it would otherwise have application here, that application is refuted by the indicated unreasonable and illogical consequences that would flow therefrom. See, *Ford v. United States*, 273 U. S. 593, 612, 47 S. Ct. 531; *United States v. Barnes*, 222 U. S. 513, 32 S. Ct. 117, 118; *Phipps v. Commissioner of Internal Revenue*, 91 F. (2d) 627 (C.C.A. 10th), cert. den. 302 U. S. 742, 58 S. Ct. 144; *Securities & Exchange Commission v. Joiner Leasing Corp.*, 320 U. S. 344, 64 S. Ct. 120.

only the single overcharge can be recovered by the Administrator.

Finally, the Court's attention is called to the fact that Judge McCulloch reached his decision to dismiss the suit because of the Administrator's alleged failure to sustain the "burden of proof" on his interpretation of the regulation. It is submitted that this reverses the established, strong presumption in favor of an administrative agency's construction of its own regulation. As is true of the administrative construction of a statute (*Billings v. Truesdell*, 321 U.S. 542, 552-53, 64 S. Ct. 737; *Skidmore v. Swift*, U.S. 65 S. Ct. 161) the agency's construction of its own regulation is entitled to persuasive weight unless clearly erroneous (*Bowles v. Seminole Rock & Sand Co.*, U.S., 65 S. Ct. 1215; *Consolidated Water Power & Paper Co. v. Bowles*, 146 F. (2d) 492 (Em. App.); *Bowles v. NuWay Laundry*, 144 F. (2d) 741 (C.C.A. 10th)).

II. THE MAXIMUM PRICES APPROVED UNDER SECTION 12 FOR THIS LUMBER ARE PROPERLY CONSTRUED AS APPLICABLE TO THE APPELLEE-WHOLESALE'S SALES THEREOF MADE PRIOR TO THE APPROVAL.

After providing that for special grades, specifications, etc., an application for a price must be made, Section 12 goes on to state in paragraph (b):

"As soon as the request has been filed, quotations and deliveries may be made at the requested price, but the final payment may not be made until the price has been approved. Action on the request may be by letter or telegram."

It is thus quite clear that the price ultimately established by the Administrator is *intended* to apply to deliveries already consummated.

Nor can there be much question as to the *validity* of such a "retrospective" price. The Administrator could have prohibited, in order to prevent evasion of the maximum prices established, any sales of qualities or sizes not specifically priced. He could, even more clearly, have prohibited such sales from being made *until approval* of the application had been granted. In fact, he did less than either of these things. He permitted such sales to be made, subject to the requirement that the price ultimately approved should be applicable. Such a more generous, and practical plan for dealing with the difficult, special-pricing problem can hardly be regarded as invalid. Nor can it be said that the price should date back only in the situation where the request for approval has been made at the time of the sale; that it is inapplicable to transactions prior to a *belated* request for approval. This would indeed put a premium on profiteering and black marketeering. It would enable a seller who in violation of the Regulation has failed to apply for a price, to cloak his subsequent sales with immunity from price-control. His own violation, in failing to apply for a price, will forever prevent a price being established that can apply back to the date of his sales; and the violation will result in giving him preferred status over his law-abiding competitors. We cannot believe that appellee will seriously urge here this remarkable contention, though there is some suggestion of it in the record. It has long been recognized

that "he who prevents a thing from being done may not avail himself of the nonperformance which he has himself occasioned" (*R. H. Stearns Co. v. United States*, 291 U.S. 54, 61, 54 S. Ct. 325, 328). "No court will lend its aid to a party who founds his claim for redress upon an illegal act" (*The Florida*, 101 U.S. 37, 25 L. Ed. 898). The present case is thus a far stronger one than others in which administrative action having retrospective effect has been judicially sanctioned (*Helvering v. Reynolds*, 313 U.S. 428, 433, 61 S. Ct. 971; *Manhattan General Equipment Co. v. Commissioner*, 297 U.S. 129, 135, 56 S. Ct. 397; *Atlantic Coast Line R. Co. v. Florida*, 295 U.S. 301, 55 S. Ct. 713; *Addison v. Holly Hill Fruit Products*, 322 U.S. 607, 622, 64 S. Ct. 1215).

Nor can it be said that the prices established here were invalid as to the appellee-wholesaler because they were established pursuant to the application of the mill involved in these transactions. Under Section 3 of the regulation, the maximum prices established pursuant to the regulation (whether by its specific dollar-and-cents prices or by its special-authorization provisions in Section 12) apply to "all shipments originating at a mill, no matter who the seller is, and no matter whether he usually is known as a mill, wholesaler, retailer or anything else". That the application of this rule to the present case is not invalidly burdensome upon the appellee-wholesaler is readily seen from the fact that after the latter's failure to file the required application, the Administrator could, *on his own initiative*, have established the prices in question, pursuant to his continuing

quasi-legislative and rule-making power under the Act. The fact that he gave an opportunity to the mill involved in the transaction to file an application is no cause for complaint by the wholesaler.

But it is in fact unnecessary to discuss here whether the prices ultimately established are invalid because of "retroactivity" or because they were established pursuant to the mill's application. All such questions of invalidity are reserved, under Section 204(d) of the Act, for the Emergency Court of Appeals only. It is clear that Section 204(d) applies not only to prices or rents established directly in the broad regulation itself, but also those which, pursuant to authority of the broad regulation, are established separately for individual sellers or landlords.¹² Moreover, in *Bowles v. Schutz, d/b/a Distillers Distributing Co.*, N.D. Cal. S.D., unreported, October 6, 1944, No. 22861-G, which, like the present suit, was a treble damage proceeding under Section 205(e), Judge Goodman specifically concluded that Section 204(d) applied to the conten-

¹²*Bowles v. Willingham*, 321 U. S. 503, 509-510, 521, 64 S. Ct. 641. The Emergency Court has considered as within its jurisdiction an attack on an individual, retroactive reduction of rent (*Womack v. Bowles*, 146 F. (2d) 497 (Em.App.)); or an attack on the non-retroactivity of an individual price adjustment (*Goodman v. Bowles*, 138 F. (2d) 917 (Em.App.)); *Buckley Dement & Co. v. Bowles*, 143 F. (2d) 877 (Em.App.)). So too the Circuit Court of Appeals for the Fifth Circuit has held that an attack on the non-retroactivity of an individual order establishing a maximum rent raises a question for the Emergency Court (*Bowles v. Lake Lucerne Plaza*, F. (2d) (C.C.A. 5th). Similarly, an objection to a meat regulation, that the forbidden overpayments for cattle by slaughterers could not be ascertained until after the cattle had been slaughtered and their yield determined, was held to raise a question for the Emergency Court (*Bowles v. Izakowitz and Glicksman* (S.D.N.Y.), C.C.H. Price Control Cases, Par. 52,276).

tion that a liquor price authorization under Section 1499.3(c) of the General Maximum Price Regulation¹³ (analogous to Sec. 12 of the RMPR 26) was invalid for "retroactivity", and awarded treble damages. In *Bowles v. Primrose Petroleum Co.* (D. Ct. N.D. Tex. C.C.H. Price Control cases Par. 52,207), Judge Atwell gave judgment to the Administrator for single damages in a Section 205(e) suit wherein the maximum price was established specially, under a provision of the petroleum price regulation¹⁴ analogous to Section

¹³Section 1499.3(c) (7 F.R. 3153):

"If a seller at wholesale or retail is unable to determine a maximum price for a commodity under paragraph (a) of this section, he shall file an application with the District Office of the Office of Price Administration for each District in which he operates as a separate seller (unless otherwise directed by a uniform pricing order) for approval of a proposed maximum price for the commodity * * *

"A commodity for which a maximum price is proposed under this paragraph (c) may not be sold * * * until that price has been approved by the Office of Price Administration, but the proposed price shall be deemed to be approved 20 days after mailing the application (or all additional information which may have been requested) unless, within that time, the Office of Price Administration notifies the seller that his proposed price has been disapproved."

¹⁴This was under Section 1340.159(b) (7) of Price Schedule No. 88, which at the time of violation read (7 F.R. 718, 7242):

"In the event that a seller is unable to determine a maximum price at a given shipping or delivery point for the sale of any petroleum product under paragraph (b) or (c) of this § 1340.159 * * * then the seller shall set a tentative maximum price for such product * * * The seller shall within 15 days after setting a tentative maximum price, file with the Office of Price Administration a written request for approval of such tentative maximum price * * * Such tentative price shall be the seller's maximum price at the particular shipping or delivery point for the particular product unless it is disapproved in writing by the Office of Price Administration within thirty days from the date it is filed as above provided or a substitute price is set by the Office of Price Administration. If a substitute price is set then such price shall be the maximum price."

No. 11,023

In the United States
Circuit Court of Appeals
For the Ninth Circuit

CHESTER BOWLES, Administrator,
Office of Price Administration, *Appellant,*

VS

PATRICK LUMBER COMPANY
(a corporation), *Appellee.*

Brief for Appellee

Upon Appeal from the District Court of the United States
for the District of Oregon

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August 22, 1945

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PAUL P. O'BRIEN,
CLERK

No. 11,023

In the United States
Circuit Court of Appeals
For the Ninth Circuit

CHESTER BOWLES, Administrator, Office of Price Administration,

vs.

Appellant,

PATRICK LUMBER COMPANY (a corporation),

Appellee.

Brief for Appellee

Upon Appeal from the District Court of the United States
for the District of Oregon

STATEMENT OF THE CASE

It is not intended here to duplicate anything appearing in Appellant's statement but to supplement its somewhat meager outline.

In 1943 the Central Procurement Agency was having difficulty in getting enough 1 inch boards (34)* to supply the needs of the Army and Navy (105) and was crowding the mills for deliveries of such boards (34). One such

*Figures in () refer to pages of printed transcript of record.

mill was West Side Lumber Company of Eugene, Oregon, which produced and shipped the lumber involved in this case. It was trying to find some way to increase its production of boards. It was a circular head-rig mill of medium or small size, and not having a band head-rig or the better equipment customary in larger mills, it was not as accurate as they in sawing, so that there was a variance in size of the lumber it produced as it came from the head-rig (35). It was primarily what is called a plank mill (105). It was cutting lots of 3 inch plank. Its rigs were not well enough lined up to get as accurate sawing as desired and from $\frac{1}{8}$ to $\frac{1}{4}$ inch variance in thickness of plank resulted (120, 121). In order to produce boards it got a re-saw. Re-sawing 3 inch plank (106) it got boards surfaced to $\frac{25}{32}$ of an inch and had left lumber (in four different grades,—select structural, select merchantable, paragraph 215, and No. 2 common) which in the instance of the three cars here involved it offered to sell to the Appellee surfaced one side, hit-and-miss, to $1\frac{1}{2}$ inches, surfaced two edges to standard. A technical trade and industry question being involved, two representatives of the mill and two other representatives of the Appellee independently studied and checked (36) the price regulations (exhibit 6) and finally came to an agreed interpretation thereof on the ceiling prices that would be applicable to this lumber. Then only did the Appellee

order the lumber which the mill invoiced to it as disclosed by exhibits No. 7, No. 8, and No. 9 (114, 116 and 118) at the prices so determined. The Appellee resold this lumber to John Schroeder Lumber & Supply Co. of Milwaukee, Wisconsin, at the identical prices so determined, invoicing the same to its customer as disclosed by exhibits No. 3, No. 4 and No. 5 (64, 65 and 66). The items sold and invoiced by the Appellee were of the same description as those which it bought from the mill at Eugene (16). The dates of these invoices are highly important. They were September 3, 1943, and September 16th and October 7th of that year.

The apparent source and motive of this action came from West Coast Lumbermen's Association (19, 20, 37). Appellant's sole witness was employed at the time of trial as an investigator in its Lumber Enforcement Unit. Before that he was a buyer for the Appellee (50). He told Appellee's President in August, 1944, that the West Coast Lumbermen's Association wanted West Side Lumber Company checked up, that the Appellant was investigating, and that he thought Patrick Lumber Company was going to have trouble on these cars (31).

Exhibit No. 13 (128) is a letter that the sawmill wrote on June 8, 1944 to the Office of Price Adminis-

tration, Lumber Division, Washington, D.C., the first sentence thereof reading as follows:

"In accordance with request of Mr. Jerome S. Bischoff of Portland, Oregon, OPA Office, we wish to submit the following request for special price authorization for 2" dimension S1S2E 1½" hit-and-miss."

This letter was answered June 22, 1944 by Peter A. Stone, Price Executive, Lumber Branch, OPA. The mill's request was declined. The answer is Exhibit No. 14 (129, 130).

Next followed communications on the subject between Mr. Bischoff and Mr. Stone (30). Disclosure of the contents of these communications was refused to the Appellee.

Then on August 3, 1944, Mr. Stone wrote the mill a letter and withdrew his previous declination. This letter is Exhibit 15 (131) and reads in part:

"Under Section 12, RMPR 26, we herewith approve as effective during the period from June to October, 1943, inclusive, the following prices, f.o.b. car mill, and weights on which freight charges should be estimated in arriving at delivered prices."

The letter then continues with a table of approved invoice sizes, approved prices and permissible estimated

weights. The following excerpts are also quoted from that letter:

"The prices herewith approved are based upon the following facts:

a. Surfacing 2" green lumber to 1½" would constitute an unwarranted waste never condoned by industry practice and which cannot be approved by this office.

b. 1/8" is sufficient tolerance between dressed size and nominal rough size when "hit and miss" dressing is permissible and both the dressed and rough size is green.

c. Grade paragraphs 215, Select Merchantable, and 301 are designed for stress and durability, and in a case such as this where substandard sizes are sold, such sizes offset any practical grade improvement that would otherwise be accomplished by these paragraphs. Hence, we cannot find justification for approving any price higher than No. 1."

The Appellant frankly conceded by Mr. Bischoff (16) that the amount of the alleged overcharge was computed by using as a base the retroactively "approved" prices and invoice sizes and (18) that the mills instigated "application was not made until long" after "the lumber was sold and billed and the money received."

Appellant relies heavily upon Exhibit No. 1, American Lumber Standards, which are concerned fundamentally with three distinct things,—size, grade and inspection. Paragraph 109 (55). Imperfections are permitted "in proportion to their effect on the strength, ap-

pearance or other utility value of the piece in the grade under consideration". Paragraph 117 (58). See also Exhibit No. 2 at page 43 defining the grade called Paragraph 215 and permitted imperfections and reading in part:

"A serious combination of above affecting utility of piece not permitted."

Paragraph 204 (60) reads:

"The grading of lumber cannot be considered an exact science because it is based on a visual inspection of each piece and on the judgment of the grader. Grading rules, however, shall be sufficiently explicit to establish 5% below grade as a reasonable variation between graders".

The Appellant also sued the sawmill for treble damages in respect of this identical lumber and claims the right to recover both from the sawmill and from the Appellee,—in all six times the amount of the alleged overcharge on the same transaction (22, 23).

Appellant to the contrary notwithstanding, (16, 21) it is *not* "stipulated in the agreed statement of facts" or otherwise "that there is no dollar and cents price in the regulation for this item". Appellant and Appellee "are in direct conflict" (39) on this point. Although the printed transcript of record contains various references to

“agreed” statements of fact and to “agreed” conclusions of law, no completed drafts of either were ever signed and the only agreements reached by the parties on facts or on conclusions of law resulted from oral stipulations in open Court by their respective attorneys.

ARGUMENT

I.

Defendant-Appellee's Sales of the Lumber Involved in this Suit Were not Shown by a Preponderance of the Evidence to be Subject to the Provisions of Section 12 of the Regulation.

The lumber so sold was of four grades,—select structural, select merchantable, Paragraph 215, and No. 2 common. These grades depend upon the imperfections which the published rules (Exhibit No. 2) “will admit”. For example, these imperfections for the “paragraph 215” lumber listed in the Appellee's invoices are set out in Paragraph 215 on page 43 of Exhibit No. 2, and include knots of various types and sizes, knotholes as specified, checks, medium pitch pockets, medium sap stain, occasional skips, splits as specified, occasional slight variation in sawing, and wane. These imperfections are not related to the thickness of the piece. They are related directly, however, to its face width. For example, Para-

graph 215 lumber of 4 inch face width will admit knots of 1 inch size, but if the face width is 10 inches, the knot size may be $2\frac{1}{2}$ inches. These various grades definitely fix in specified terms of admitted imperfections the quality of lumber as it is bought and sold as a commodity. Exhibit 2 also specifies with particularity the admissible imperfections for the other three grades of lumber listed in the Appellee's invoices.

Now what did Section 12 of the Regulation (Exhibit No. 6) require? That Section is headed "Grades, Services, or Extras not Listed". Subparagraph (a) of that Section reads (so far as it is pertinent here):

"If a seller wishes to sell a grade which is not specifically priced in the price tables, or wishes to make an addition for special workings, specifications, services or other extras, for which additions are not specifically permitted, he must apply to the Lumber Branch, Office of Price Administration, Washington, D. C., for a maximum price". . . .

The four grades of lumber invoiced by the Appellee to its customer were all specifically priced in Price Table 2 of Exhibit No. 6,—select merchantable in Note 2, select structural in Note 3, No. 2 Common in Note 4, and Paragraph 215 in Note 12.

The Appellee did not sell or wish to sell to its customer lumber of a grade other than select merchantable,

select structural, Paragraph 215 and No. 2 common. In this connection the Judge presiding at the trial questioned Mr. Bischoff (Plaintiff-Appellant's Attorney) and was answered by the latter as follows (75):

"The Court: These were billed as certain grades of lumber known to the trade?

Mr. Bischoff: That is correct.

The Court: But you say they were not up to the billing?

Mr. Bischoff: No, we are not making that claim here."

Nor did the Appellee as a seller wish "to make an addition for special workings, specifications, services or other extras". . . . Therefore the Appellee had no occasion to apply for a maximum price and did not do so.

The Appellant argues unconvincingly that *grade* is used interchangeably with *item*. The argument is *tabula in naufragio*. Lumber items are of numerous kinds as Exhibit No. 2 discloses. They may be in description *generic*, like Dimension, or *special*, like Joists. A particular item (depending on its quality) may fall into any one of six or more grades. See Price Table 2, for example, of the regulation where the same *item*, (depending on the prevalence or paucity of its imperfections) may be in respect of *grade*, No. 1 common, or select merchantable, or select structural, or No. 2 common, or No.

3 common, or No. 4 common, or Paragraph 215,—7 *grades* for a single *item* with a different price for each *grade* of that item.

The Appellant interprets Section 12 (a) as if it read:

If a seller wishes to sell an item which in size varies from the published standards for *American Soft Woods, and for †Douglas Fir, he must apply to the Lumber Branch, Office of Price Administration, Washington, D. C. for a maximum price. . . .

That will not do for various reasons, some of which follow:

1. Section 12(a) is confined by its terms (so far as this case is concerned) to *grades*.

2. In Price Table 2 itself what is meant by word *grades* is described in the first 13 Notes to that table. Notes 2, 3, 4, and 12 describe the four grades listed in the Appellee's invoices to its customer.

3. *Grade* is carefully distinguished from *size* in American Lumber Standards (Exhibit No. 1). See in this connection caption preceding Paragraph 105 and reading (with emphasis supplied) "Maintenance of *size* and *grade* standards" (54); Paragraph 105 reading in part (with emphasis supplied) "published *size*, *grade* and inspection standards" (54); Paragraph 107 reading

*Exhibit No. 1. †Exhibit No. 2.

in part (with emphasis supplied) "the standards of *size* and basic *grade*, names and classifications" (55); Paragraph 108 reading in part (with emphasis supplied) "*size, grade* and inspection standards" (55); Paragraph 109 reading in part (with emphasis supplied) "*size*, standards, basic *grade* classifications, and inspection standards" (55); Paragraph 112 reading in part (with emphasis supplied) "standards of *size* and *grade*" (56); caption preceding Paragraph 114 and reading in part (with emphasis supplied) "*size* and *grade*" (57); Paragraph 115 reading in part (with emphasis supplied) "Standard *sizes* or *grades*" (57); and Section 22 (of regulation No. 26, exhibit No. 6) reading in part (with emphasis supplied) "*grade* and *size* terms."

4. Exhibit No. 2 on page 142 specifies standard *sizes* (thicknesses and widths) for numerous *products* of West Coast lumber in *grades* suitable for construction. Here, too, there is no confusion of *grade* with *size* or *product*.

5. Exhibit No. 2 is entitled "Standard Grading and Dressing Rules" for Douglas Fir lumber. Here again *grading* (ascertaining the quality) is distinguished from *dressing* (surfacing the lumber). Sawing lumber to standard size with absolute precision is impossible even in the largest, most modern and most completely equipped mills mechanically. Accuracy in sawing is still more difficult

for the medium and small sized mills to achieve that like West Side Lumber Company are set up primarily to produce plank. These rules (Exhibit No. 2) recognize that disability and provide for variation. They contain the following paragraphs on the subject:

“92. Variation in sawing as specified in these rules means less or more than the nominal rough green size and must not be confused with *intentional scant sawing.

“93. Slight variation in sawing is a deviation from the nominal size and shall not exceed the following limits for the respective sizes:

Nominal

1"	1/16"	under or	1/8" over	
2"	1/8"	" "	1/4"	"
3" to 7"	3/16"	" "	3/8"	"
8" & over ..	1/4"	" "	1/2"	"

“94. Standard sawn lumber is sawn to the nominal rough green sizes specified in the Grading Rules, with the occasional variation in sawing permitted in the Rules.”

Under the Appellant's theory, however, (1) any variation in size from the published standard automatically subjects the lumber sold to the provisions of Section 12 of the regulation, and (2) the amount or degree of such variation is immaterial, so that the Appellee would have been answerable for not complying with Section 12 if

* There is no evidence in the record of “intentional scantsawing” on the part of the mill.

the lumber it sold actually had been (instead of 1 16/32" in thickness) 1 17/32" or 1 18/32" or 1 19/32" or 1 21/32" in comparison with the standard of 1 20/32" (1 5/8").

6. Section 22 of the regulation reads in part as follows:

"All grade and size terms and 'paragraph' references appearing in this regulation refer to and have the meaning given in the standard grading and dressing rules No. 12 issued by the West Coast Lumbermen's Association"

The rules (Exhibit No. 2) last mentioned (including paragraphs 92, 93 and 94 thereof) therefore govern the interpretation to be given to Section 12 of the regulation.

7. The Appellee does not concede that the prices approved retroactively by the Price Executive ever had or could have any validity under the circumstances here appearing, but if the Appellant's argument on this point were conceded, it is plain that the Office of Price Administration did not within 30 days either authorize a price or require further justification of the requested price and that therefore the requested price must be considered to have been approved in accordance with Amendment 9 of October 30, 1942, printed in Note 8 on page 18 of Appellant's Brief and reading in part as follows:

"The Office of Price Administration shall within 30 days of the receipt of the application either authorize the requested price or authorize a price which is deemed proper. Authorization may be by letter or telegram. If the Office of Price Administration does not within 30 days either authorize a price or require further justification of the requested price, the requested price shall be considered approved."

Here the mill's application was dated June 8, 1944 and the Price Executive's authorization (Exhibit No. 15) was dated August 3, 1944.

In these circumstances the retroactively established prices cannot avail to serve the Appellant as a basis for the alleged overcharge.

II.

Defendant-Appellee's Sales of the Lumber Involved in this Suit were not Shown by a Preponderance of the Evidence Not to be Subject to the Provisions of Table 2.

1. The Appellee used the prices named in Table 2 in invoicing the lumber to its customer. This can be illustrated by reference to Exhibit No. 4 (65). On this invoice is listed an item of 2 pieces (of 2x6" each 22 feet long of green select merchantable) containing 44 board feet which it sold to its customer for \$2.28 at the rate (including freight to destination) of \$51.75 per thousand feet board measure. The price named in Table 2 for

2x6" of 22 foot lengths is \$31.00 per thousand feet board measure for No. 1, to which Note 2 authorizes the addition of \$3.00 for the *grade* of select merchantable,—\$34.00 in all or 3.4 (34 divided by 1,000) cents per board foot, or \$1.496 (.034 times 44) for 44 board feet. This lumber was sold (as the invoice discloses) on a freight rate of .755 per hundred pounds to Milwaukee, Wisconsin from Danebo, Oregon. The Appellee estimated that all the 2x6" lumber listed in its invoices weighed 2350 pounds per thousand feet board measure, or 2.35 pounds per board foot, or 103.4 pounds for 44 board feet. See in this connection Exhibit No. 13 (128). The freight charged by the Appellee to its customer was 78 cents (1.034 times .755). \$1.496 plus .78 equals \$2.276 (\$2.28) which was the total charge Appellee made to its customer for the two pieces above mentioned.

Appellee sold lumber which Appellant claims was "sub-standard" in respect of thickness. But Appellee's prices were less than the maximum legally applicable on lumber that was standard in respect of thickness.

Now by way of comparison, the total charge may be figured on two pieces of 2x6" each 22 feet long of select merchantable *grade*, green surfaced 4 sides to thickness of $1\frac{5}{8}$ " and to width of $5\frac{5}{8}$ " shipped from Danebo to Milwaukee on a .755 freight rate. The two pieces would

contain 44 board feet. The price named in Table 2 is \$34.00 per thousand feet board measure, or 3.4 cents per board foot, or \$1.496 for 44 board feet. The regulation (exhibit No. 6) on page 49 contains a table of estimated weights per thousand feet board measure for "Fir-Dimension". The lumber sold by the Appellee was green as is disclosed by the invoices. The weight named in this Table for 2x6" S4S, Standard Green is 2550 pounds per thousand feet board measure, or 2.55 pounds per board foot, or 112.2 pounds for 44 feet board measure. The freight charged to the customer at Milwaukee would be \$.84711 (1.122 times .755) or \$.85. \$1.496 *plus* \$.84711 equals \$2.34 or 6 cents more than \$2.28 which the Appellee actually charged. This 6 cent difference is the equivalent of \$1.36 per thousand feet board measure. Obviously no overcharge can be predicated on this comparison.

Next by way of further comparison it will be shown just how a basis was contrived for claiming that the Appellee overcharged its customer. Appellee sold this lumber in the 3 cars, had it shipped, and collected the invoice prices from its customer, all 2 months or more before the close of 1943. On August 3, 1944 the Price Executive, Lumber Branch, Office of Price Administration, at Washington, D. C., wrote a letter (Exhibit No. 15) to the mill (131, 132 and 133) approving "as effective dur-

ing the period from June to October, 1943, inclusive, the following prices f.o.b. car mill and weights on which freight charges should be estimated in arriving at delivered prices". . . . For select merchantable green pieces of 2x6" each 22 feet in length (as invoiced by the Appellee) the Price Executive approved an invoice size of $15\frac{1}{8} \times 6$ and a price of \$30.50 per thousand feet board measure, or \$.0305 per board foot. Two such pieces under the approved invoice size would contain (35.75) 36 board feet. The approved price for 36 board feet would be \$1.10 (.0305 times 36). In his letter the Price Executive also approved a table of "Permissible Estimated Weights". The estimated weight for the lumber described in this paragraph was 2850 pounds per thousand feet board measure, or 2.85 pounds per board foot, or 102.6 pounds for 36 board feet. The freight chargeable to the customer would be 77 cents (1.026 times .755). \$1.10 plus \$.77 equals \$1.87,—the retroactively approved price for these two pieces. The Appellee charged \$2.28 for them.

Like methods of analysis might be used for every piece of lumber in the 3 cars involved and analogous results would be produced.

Now it remains to point out the arbitrary, unlawful and iniquitous elements contained in the Price Execu-

tive's approvals, which are the sole and indispensable basis for the Appellant's action.

1. Standard green fir dimension has a nominal rough thickness of 2 inches (Exhibit 2, page 142). Surfaced 1 side or 2 its standard thickness is $1\frac{5}{8}$ inches. Dressed 2 edges from a nominal rough width of 6" its standard face width is $5\frac{5}{8}$ ". So surfaced and dressed 2 such pieces each 22 feet long would contain 44 board feet for all purposes of pricing and sale under Table 2 of the Regulation. Three-eighths of an inch loss or tolerance in nominal rough width is allowed for dressing and the same amount of loss or tolerance in nominal rough thickness is allowed for surfacing 1 side or 2 sides. This is normal industry practice and is contemplated by Regulation No. 26. Now in his Approved Invoice Sizes (authority to promulgate which does not appear in Section 12 or elsewhere) the Price Executive on 2x6" pieces (as invoiced by the Appellee) allowed the customary $\frac{3}{8}$ inch tolerance, so far as nominal rough width (6 inches) was concerned, but denied the customary $\frac{3}{8}$ inch tolerance, so far as nominal rough thickness ($1\frac{7}{8}$ inches) was concerned, and allowed only $\frac{1}{8}$ inch, disregarding Paragraph 127 (of Exhibit No. 1) reading: "Lumber finished to special size shall be tallied as of the standard rough size necessarily used in its manufac-

ture." Appellee's lumber (as invoiced) was finished to special size. In the instance of the 2x6" pieces which it invoiced the nominal rough size necessarily used in their manufacture was in width 6 inches (which he allowed) and in thickness $1\frac{7}{8}$ inches ($\frac{2}{8}$ inches of which he disallowed). This disallowance was purely arbitrary and was nothing less than the exercise of usurped authority. Inevitably this disallowance by him could only operate to create apparent overcharges on the part of the Defendant-Appellee. If he had allowed nominal rough thickness of $1\frac{7}{8}$ inches, then the two pieces in question would have contained 41 board feet instead of 36 under his formula.

2. The prices named in Table 2 for 2x6" pieces in random lengths from 6 to 20 feet long were in the *grades* sold by the Appellee as follows:

Select Merchantable	\$28.50 plus	\$3.00 or \$31.50 per thousand feet B.M.
Select Structural	.....\$28.50 plus	\$5.00 or \$33.50 per thousand feet B.M.
Paragraph 215	.....\$28.50 plus	\$2.00 or \$30.50 per thousand feet B.M.
No. 2	.....\$28.50 minus	\$2.00 or \$26.50 per thousand feet B.M.

Corresponding prices approved retroactively by the Price Executive were:

Select Merchantable	.....\$28.50
Select Structural	.....28.50
Paragraph 215	.....28.50
No. 2	.....26.50

These reduced "Approved Prices" on Select Merchantable, Select Structural, and Paragraph 215, if valid, obviously would create apparent overcharges on the part of the Appellee on all lumber it sold in those *grades*. The "Approved Price" on No. 2 was not reduced by him below the figure named for that *grade* in Table 2. But for all lumber sold by Appellee in that *grade* his approval (of reduced invoice sizes), if valid, would also create apparent overcharges. It is significant that the Price Executive went to Table 2 for the prices he approved so belatedly,—the very Table to which the Appellee resorted in pricing the lumber to its customer.

In effect the Price Executive in approving reduced prices on Select Merchantable, Select Structural, and Paragraph 215 determined that Appellee's lumber in those *grades* was no better in quality than No. 1. The Appellant's attorney made no such claim (75). There is not a word of evidence even remotely hinting that the Price Executive or any one under him ever saw (much less graded) a single piece of this lumber or that its thickness (as invoiced) impaired in any degree its strength or other utility value in comparison with similar items $\frac{1}{8}$ inch thicker. Sub-paragraph c of his letter is pure unsupported guessing on his part, which the Appellant seeks to use as a basis for penalizing the Appellee heavily. His mention of "a case such as this where sub-

standard sizes are sold" indicates very plainly that he felt he had found an unfair business practice incompatible with sound principles of conservation as the Trial Judge pointed out (7) and that he considered it was incumbent on him to do something about it. But he has no roving commission to exercise authority on his own conceptions of what is sound industry practice. Subparagraphs a, b, and c of his letter are not "facts" as he stated therein, but mere unwarranted assumptions on his part, which the evidence of record fails to substantiate at any point.

RETROACTIVITY

This action is clearly penal in character. A penalty is a sum of money of which the law exacts payment by way of punishment by doing some act that is prohibited. The term involves the idea of punishment, generally pecuniary. Its character is not judged by the mode in which it is inflicted, whether by a civil action or a criminal prosecution. It connotes punishment for a wrong or for a non-fulfillment of an obligation.

The appellant argues that there cannot be much question as to the validity of a "retrospective" price. The Price Executive's retroactive approvals of invoice sizes and of prices cannot serve as a basis for the imposition of heavy pecuniary penalties upon the Defendant-Appellee. To

give such approvals that interpretation would make them violative of the due process clause of the Fifth Amendment of the Federal Constitution, but the invalidity of these retroactive approvals by the Price Executive for any purpose goes even deeper than that. The Price Executive in a very real sense was only the *alterego* of the Administrator of the Office of Price Administration. In making such approvals he was unable by the very force of circumstances to proceed judicially and without favor to the Administrator or bias against the Defendant-Appellee. No administrative action such as is involved in the making of these approvals, which the Appellant contends had the force of law, ought to be permitted to stand when their obvious purpose was to make a case for the Administrator out of transactions that had taken place and been closed months earlier.

When the Appellee made these sales in September and October, 1943, it could not possibly have known what prices the Price Executive would approve in August, 1944, nor could it have any reason to suppose that the Price Executive would undertake to approve maximum prices to be effective only retroactively to cover the period of the sales in question. In enacting the Emergency Price Control Act of 1942 the Congress did not empower the Administrator therein to approve after the effective date of the act maximum prices for lumber sold prior to

such effective date and thereupon to sue a seller for treble damages for charging prices higher than those established by him after the act became effective. If Congress had enacted such legislation, it would have been in that respect plainly violative of the Fifth Amendment of the Federal Constitution. Certainly the Price Executive's authority in this connection cannot exceed the authority that Congress itself might have constitutionally exercised.

This action is to recover treble damages for alleged overcharges claimed to have been made in September and October, 1943 in excess of prices first approved in August, 1944. Before August 3, 1944, but long after the last of the sales in question had become a closed transaction, the Administrator and his attorneys at Portland, Oregon, were in this dilemma. They knew what prices Patrick Lumber Company (the Defendant-Appellee) had charged. But that information would not be enough (without more) to establish an unlawful overcharge. They must also prove by way of comparison legally applicable prices that at the time of sale were lower than those charged. They could not prove that the prices named in Table 2 of the Regulation (which were what the seller charged) did not apply. They could not find in the Regulation any lower prices that by any conceivable stretch even of their own imagination would be applicable to the

lumber the Appellee sold. The most indispensable element of such an action as they contemplated was lacking and they must find means, if possible, by hook or crook, to supply it *nunc pro tunc*. In this predicament Mr. Bischoff who brought this action on his own initiative (109) conceived the idea of procuring the mill to apply for a retroactive approval of the prices that had been charged. The mill, apparently not realizing that a trap was being so set, made such an application (Exhibit No. 13) on June 8, 1944. When prices were eventually approved by the Price Executive with much evident reluctance on his part, the stage was set and it was not long before this action was commenced.

So before the Price Executive on August 3, 1944, promulgated his Approved Sizes and Prices as contained in his letter of that date in evidence as Exhibit No. 15 (131, 132, 133), there existed not even the shadow of a basis for a claim on the part of the plaintiff-appellant that the Appellee had overcharged its customer for the lumber involved in this action. That proposition may be stated differently but with equal accuracy. Approved Invoice Sizes and Approved Prices such as the Price Executive promulgated on August 3, 1944, were absolutely indispensable to the statement of a case by the Plaintiff-Appellant against the Defendant-Appellee. When the

mill's application of June 8, 1944 was made to the Office of Price Administration at Washington, D. C. (128), the Price Executive on consideration of the application denied it for reasons stated in his answer (129, 130). His denial obviously was unsatisfactory to the Plaintiff-Appellant because such denial left it without the material out of which it could make an ostensible case against the Defendant-Appellee. What representations the Plaintiff-Appellant made to the Price Executive between June 22, 1944 (the date of his denial of the mill's application) and August 3, 1944 (the date of his promulgation of the Approved Invoice Sizes and Prices), the Defendant-Appellee does not know. It does know, however, that in that period of forty-two days the Price Executive was aware that any invoice sizes and prices which he might approve retroactively necessarily would have the effect of doing one of two things,—either leaving the Office of Price Administration without any basis in fact for an action against the Appellee for treble damages for alleged overcharges on its part, or on the other hand making a case for the Plaintiff-Appellant by supplying facts or findings theretofore lacking.

As an official of the Office of Price Administration he could not very well approve invoice sizes and prices in such figures as would leave the administrator without

any chance of commencing and prosecuting an action against Defendant-Appellee. He knew very well what invoice sizes and prices he would have to approve in order to create the basis for an action that would stand up *prima facie* against the Defendant-Appellee. Under these circumstances the particular action he took was simply inevitable. Can his action be rationally explained on any theory other than that he deliberately approved invoice sizes and prices that would make a case against the Appellee for the Office of Price Administration, and carefully avoided making approvals that would have prevented the Office of Price Administration from commencing and prosecuting the pending action? This is particularly true since the approval was not prospective in its application but was retroactive "during the period from June to October, 1943."

CONCLUSION

This action is and has been distinctly Pharisaical in its conception and subsequent development. The Pharisees tithed mint, anise and cummin and omitted the weightier matters of the law. It is earnestly submitted that the trial court rightly dismissed this action and that its judgment should be affirmed.

Dated August 22, 1945.

Respectfully submitted,

TEAL, WINFREE, McCULLOCH, SHULER & KELLEY.

WILLIAM C. McCULLOCH,

Attorneys for Appellee.

No. 11023

**In the United States Circuit Court of Appeals
for the Ninth Circuit**

**CHESTER BOWLES, ADMINISTRATOR, OFFICE OF PRICE
ADMINISTRATION, APPELLANT**

v.

PATRICK LUMBER COMPANY (A CORPORATION), APPELLEE

REPLY BRIEF FOR APPELLANT

GEORGE MONCHARSH,
Deputy Administrator for Enforcement.

DAVID LONDON,
*Chief, Appellate Branch,
Office of Price Administration,
Washington, D. C.*

HERBERT H. BENT,
Regional Litigation Attorney.

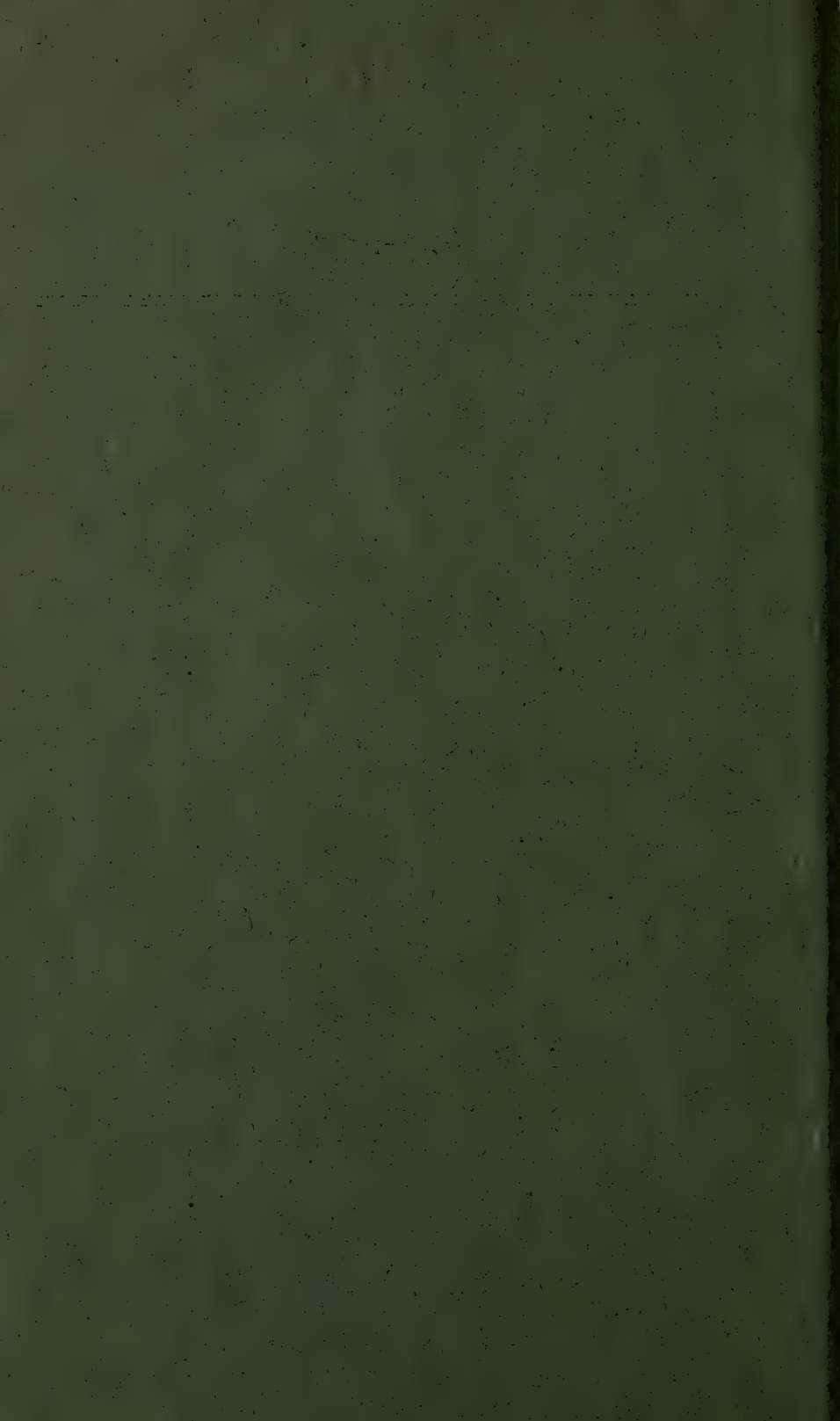
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PAUL P. O'BRIEN,
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In the United States Circuit Court of Appeals for the Ninth Circuit

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REPLY BRIEF FOR APPELLANT

Appellee's brief consists almost entirely of statements that are either (a) irrelevant or (b) inaccurate and misleading.

1. Thus a large part of his argument is devoted to showing that the prices established by the Administrator through the Price Executive of the Lumber Branch pursuant to application under Section 12 of the Regulation and asserted by the Administrator to be applicable to the lumber sales in this suit, were invalid because "arbitrary" in amount, and based on "usurped authority" and "unwarranted assumptions" (Brief, pp. 18-21), or were invalid because of allegedly unconstitutional retroactivity (Brief, pp. 23-26). This attack on the validity of the prices established under Section 12 is irrelevant to the issues here because the validity of prices established under the Emergency Price Control Act can be attacked only in the Emer-

(1)

gency Court of Appeals (Sec. 204 (d) of the Act) as has been repeatedly held by the Supreme Court (*Yakus v. United States*, 321 U. S. 414; *Bowles v. Willingham*, 321 U. S. 503; *Bowles v. Seminole Rock and Sand Co.*, 65 S. Ct. 1215) and by this Court (*Taylor v. United States*, 142 F. (2d) 808; *Bowles v. Sanden and Ferguson*, 149 F. (2d) 320; *Bowles v. Case*, 149 F. (2d) 777, *Bowles v. Wheeler*, August 1, 1945 — F. (2d) —).

2. Equally irrelevant is the argument on pp. 14-17 which (in view of the heading) is designed to show that the lumber sales involved in this suit were subject to the provisions of Table 2 of the Regulation. Appellee attempts to prove this proposition as to *applicability* of Table 2, by attempting to show at some length that he *in fact used Table 2* in arriving at the prices charged; that the prices charged were reasonable because not higher than Table 2 prices (Brief pp. 14-15) and in some instances allegedly less (Brief, pp. 15-17).

It is not difficult to see why Appellee had to deal in irrelevancies in arguing that Table 2 was applicable. Nothing could be clearer than that Table 2 did not apply to lumber surfaced on one side and two edges (S1S2E) to 11½" thickness, as was the lumber involved in this suit. The text of the Table (which by its heading applied only to "No. 1, Green, Rough or S4S, A. L. S."—see Administrator's Main Brief, p. 8) was inapplicable, and the prices established in the notes for the various qualities here sold ("select structural," "select merchantable," etc.) and for the

S1S2E surfacing involved (Note 23) were also inapplicable—since all *dimension lumber, of whatever quality or surfacing, has a standard, minimum thickness when surfaced at all, of 15/8''* (American Lumber Standards, Exhibit 1, R. 61–62, 70–71; Grading Rules, Exhibit 2, p. 142; R. 70). The lumber standards and grading rules in the preceding citation are made applicable by Section 22 and Table 2, Note 23 of the Regulation. (See Administrator's Main Brief, pp. 8, 11.)

3. The Appellee's argument against the applicability of Section 12 of the Regulation (Brief, pp. 8–11), while not irrelevant, does fail to come to grips with the Administrator's position as outlined in his main brief. Appellee argues generally that the term "grade" is used elsewhere in the Regulation and in the Grading Rules so as not to include the idea of a substandard specification. This does not refute the Administrator's contention that the word must not in Section 12 be given the narrow meaning because:

(a) In conjunction with the inapplicability of Table 2, previously shown, a narrow meaning of "grade" in Section 12 would result in leaving all substandard specifications *unpriced*—a result inconsistent with the clear and unqualified language of Section 2 ("This regulation covers all Douglas fir" and "The regulation applies whether the particular item is specifically priced in the price tables or not"). It is elementary that all provisions of a statute or regulation must be read together, so as to give effect to all provisions and reconcile any apparent inconsistencies. The Administrator's construction does this. The appellee can-

not do this, except by asserting that Table 2 applies—a conclusion flatly contradicted, as we have indicated, by the restriction in Table 2 to dimension lumber of $1\frac{5}{8}$ " minimum thickness when surfaced.

(b) It is established law, as shown in the Administrator's main brief, that "literal" meanings of statutes or of written documents generally are not accepted by courts when they lead to absurdly unreasonable consequences and there is adequate basis for believing another meaning was intended. Applicability of this principle is demonstrated not only by the considerations previously cited (of internal inconsistency, and the virtual exemption of dimension lumber from price control by indirectly inviting the manufacture of ceiling-free, substandard specifications) but also by reference to the history of the regulation, showing a clear intent to cover these sales by Section 12. As shown in the Administrator's main brief (pp. 17-21) sales such as these had, prior to the present Revised Regulation, *always* been covered by the Douglas fir lumber regulations in a section comparable to the present Section 12; i. e., a section requiring application for approval of prices for special items—but using different language; and no intent is seen in the Statement of Considerations for the Revised Regulation, or otherwise, to make the striking departure contended for by appellee. Indeed the word "grade" and the word "addition" were used and officially construed, in this prior period of regulation, in a manner similar to that in which the Administrator contends these same words should be construed in

Section 12. Appellee was subject to regulation then, and knew or should have known the clear administrative intention at that time. He has had no reason to surmise a change in intent.

(c) If the changed language of the Revised Regulation raised any doubts in appellee's mind he could have had them removed by inquiring of the Office of Price Administration. That the intent of the present Regulation is in fact clear, is eloquently attested by the fact that the West Coast Lumbermen's Association itself took the initiative in seeing that action was taken upon appellee's violation. As the appellee himself has recognized in his brief (p. 3), the Record shows that "the apparent source and motive of this action came from West Coast Lumbermen's Association."

(d) In view of the indicated history of the Regulation, its official interpretations, and the continuing availability of the Office of Price Administration for interpretation; in view of the apparent understanding of its meaning by the industry generally; in view of the completely untenable construction placed upon Table 2 by appellee; and in view of the further fact that (under Section 205 (e) of the Act) if appellee can show that the violation was free from wilfulness and did not result from a failure to take practicable precautions, his liability is limited to the *single overcharge*—it can hardly be argued that a businessman conscious of his wartime responsibilities is here being "*penalized*" for *bona fide, reasonable* belief that the Regulation permitted the conduct complained of.

4. In conclusion, the Court's attention is called to certain misleading statements in the appellee's brief. On pp. 13-14, he argues that the Regulation required the Administrator to act upon price-applications under Section 12 within 30 days of the receipt of the application, and the Administrator failed to do so here. The authority cited for this is Amendment 9 of the *original* Regulation. It is difficult to see what comfort appellee can derive from this, since there is no such provision in *Revised* Maximum Price Regulation 26, which is applicable to this case. (See Administrator's main brief, p. 12.)

Again, on pp. 11-13 of his brief, appellee argues that the Grading Rules permit a $\frac{1}{8}$ " variation under the "nominal" 2-inch size, citing Rules 92-94. These Rules do not help him in the least, as is apparent from their face. They are variations permitted from the standard, "nominal" or rough (i. e. unsurfaced) sizes applicable to a product resulting from sawing. In other words, when a 3" plank is sawed so that a $1\frac{7}{8}$ " piece of dimension lumber results, this $1\frac{7}{8}$ " piece could with propriety be called 2" nominal (i. e. $\frac{1}{8}$ " variation below the 2" nominal would be permitted). But nothing in Rules 92-94 or any other Rules states that $\frac{1}{8}$ " variation below the standard thickness of $1\frac{5}{8}$ " is permitted for the product resulting from *surfacing* the nominal 2-inch dimension. Lumber is surfaced to exact specifications. Such exactitude is not required for sawn lumber. (And the $\frac{1}{8}$ " tolerance permitted, in the above example, is small enough to permit surfacing to the standard $1\frac{5}{8}$ " thickness.)

CONCLUSION

It is submitted that the appellee's brief (which is completely barren of authorities) has failed to refute the Administrator's contentions, and is replete with irrelevant and misleading observations. The judgment should be reversed.

Respectfully submitted.

GEORGE MONCHARSH,
Deputy Administrator for Enforcement.

DAVID LONDON,
Chief, Appellate Branch.

HERBERT H. BENT,
Regional Litigation Attorney.

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v.

PATRICK LUMBER COMPANY (A CORPORATION), APPELLEE

PETITION FOR REHEARING

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FILED

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PETITION FOR REHEARING

Now comes Chester Bowles, Administrator of the Office of Price Administration, appellant in the above-entitled proceeding and petitions this Court, pursuant to Rule 25, for rehearing of its judgment rendered on October 5, 1945 in the following *per curiam* opinion:

The Price Administrator appeals from an adverse judgment in a suit for damages for sales of Douglas fir dimension lumber at prices allegedly in excess of the maximum contemplated by Revised Maximum Price Regulation 26.

The question on the appeal concerns the interpretation of the Regulation. The Trial Court found that the prices charged were not in excess of the maximum prescribed in Table 2, Section 23 of the Regulation, which table appellees had thought applicable to the transaction. The Administrator claims that this table fixed no price for the dimensions sold

and that accordingly Section 12 of the Regulation came into play. This section provides that "if a seller wishes to sell a grade which is not specifically priced in the Price Tables or wishes to make an addition for special workings, specifications, services, or other extras for which additions are not specifically permitted," he must apply for a maximum price.

We are not disposed to disturb the determination below that Table 2 was applicable to the peculiar facts of the case. As the court observed, the question involved is a technical one in the industry. There was substantial evidence to support the finding made.

Affirmed.

The opinion states that the Court is unwilling to disturb the determination of Judge McCulloch that Table 2 of Revised Maximum Price Regulation 26 did not apply to the lumber sales in question, since there was "substantial evidence" to support the "finding." This view should be reconsidered by the Court, we submit, since the assumption that the construction and application of an administrative regulation having the force of law are questions of fact, the determination of which by the trial judge is not reviewable by the Circuit Court if based on substantial evidence, is demonstrably erroneous.

1. The process of determining whether a statute or administrative regulation "applies" to particular transactions may conveniently be considered as consisting of 3 major steps: (a) Determining the *specific facts* as to the transactions involved (e. g. in this case, what sizes and types lumber were sold, at what

prices, etc.). (b) Determining the *legal requirements* which are established by the governing statute or regulation (in this case, what rules as to maximum prices of lumber are established by Revised Maximum Price Regulation 26, in Table II and Section 12). (c) Determining *the relations between (a) and (b)* (in this case, which, if any, of the legal rules in Table 2 and Section 12 establish maximum prices for the lumber sold).

In this suit, the *fact-finding* involved in the step designated above as “(a)” is *not in issue* at all. It was undisputed that the sales were of Douglas Fir dimension lumber, surfaced on one side and two edges to a thickness of $1\frac{1}{2}$ ”, and the prices actually charged were also undisputed (See Administrator’s main brief, p. 13).

The controversy centers about steps “(b)” and “(c).” But the questions there involved are not questions of fact. Determining, under “b,” what legal rules are established in a Regulation having the force of law is clearly the determination of a question of law. It is no less a question of law if, as under “(c),” the same process of construction is performed, but with attention paid to the relation of the legal rule to the given facts of past transactions. Such an “application” of the law to the facts is inherently similar to the supposedly “pure” process of construction in “b.” The difference is that the relation to particular facts of past transactions is made *explicit* under “(c)” while it is only implicit in the determination under “b” of the intended scope of the legal requirement. And the courts have recognized that this “application”

of a statute or regulation to given facts is essentially a legal question (sometimes referred to as a "mixed question of law and fact"). As such, it is *open for independent redetermination by the Circuit Court in reviewing a district judge's determination* thereof.

Thus, in *Exmoor Country Club v. United States* 119 F. 2d 961 (C. C. A. 7th), where the question was whether certain amounts received by a private club were "paid for admission to any place" within the meaning of a taxing statute, the Circuit Court independently considered the issue and reversed the District Court construction, pointing out (p. 963): "In this case the facts are not in dispute. The problem is one of construction, i. e., the application of the taxing statute. In such situations, where the ultimate finding is a conclusion of law or at least a determination of a mixed question of law and fact, it is subject to judicial review, and on such review the appellate court may substitute its judgment for that of the trial court. *Bogardus v. Commissioner* 302 U. S. 34, 39, 58 S. Ct. 61 * * * ." To the same effect see *United States v. Anderson* 108 F. 2d 475, 479 (C. C. A. 7th); *Duquesne Club v. Bell* 127 F. 2d 363, 364-5 (C. C. A. 3rd) cert. denied 317 U. S. 638; O'Brien, *Manual of Federal Appellate Procedure* (3rd ed. 1941) at p. 19. This Court has followed the same rule. In *United States v. Armature Exchange Inc.*, 116 F. 2d 969 (C. C. A. 9th) cert. denied 313 U. S. 573, 61 S. Ct. 960, it did not hesitate to determine independently, and to reverse the District Court's conclusion on, the question of whether one who added labor and materials

to worn-out armatures was a "manufacturer or producer" of automobile parts, within the meaning of the applicable statute. Again, in *McLaughlin v. Hull* 87 F. 2d 641, 644 (C. C. A. 9th), this Court acknowledged the general rule that the "meaning and application" of an ordinance is a question of law upon which the court, if requested, should instruct the jury. And in *Bowles v. Wheeler* (C. C. A. 9th, August 1, 1945, No. 10,924) 3 O. P. A. Op. and Dec. 2216, this Court independently construed the terms of Maximum Price Regulation 165 and reversed the District Court's construction of the "class of purchaser" clause of the regulation. Other Courts (e. g. *Bowles v. Sisk* 144 F. 2d 163 (C. C. A. 4th); *Bowles v. Biberman* C. C. A. 3rd, Sept. 21, 1945) including the Supreme Court (*Bowles v. Seminole Rock and Sand Co.* 65 S. Ct. 1215) have similarly reversed lower court constructions of various, rather technical provisions of O. P. A. regulations without any suggestion that the issue of construction was anything other than a question of law.

Moreover the Supreme Court has recently declared that even where the Circuit Court is reviewing a statutory construction by the Tax Court (whose specialized, quasi-administrative experience has caused great weight to be given to its conclusions) the Circuit Court, though giving appropriate weight to the Tax Court conclusions, is free to redetermine the question for itself. *Bingham's Trust v. Commissioner of Internal Revenue*, U. S. —, 65 S. Ct. 1232 (1945). The question was whether certain legal expenses were deductible from gross income as one of the "ordinary

and necessary expenses paid or incurred during the taxable year for the production or collection of income or for the management, conservation, or maintenance of property held for the production of income" within the meaning of the quoted statutory language. In discussing the standards for judicial review, the Court stated, through Chief Justice Stone (p. 1235): "But whether the applicable *statutes and regulations* are such as to *preclude the decision* which the Tax Court has rendered, is, as was recognized in *Dobson v. Commissioner*, supra, 320 U. S. 492, 493, 64 S. Ct. 242, 88 L. Ed. 248, *a question of law reviewable on appeal.*" [Italics supplied.] So too here, the question of whether the requirements of the Regulation are such as to "preclude the decision" that Table 2 applies is a "question of law reviewable on appeal."

2. These case authorities reflect some rather settled considerations of policy and history. As has been observed in a recent study, "no reason of policy and no rule or statute require that the trial court's judgment as to the application of a rule of law to the facts found be binding to any extent on the appellate court. The trial judge is neither more expert in the particular field nor more representative of the community than the appellate court; if anything, he is less so. His judgment as to the application of a rule to facts found is not likely to be superior to that of the reviewing body, which is composed of a greater number of men of at least presumably equal competence in precisely the same field."¹ And it is a historical

¹ Stern, *Review of Findings of Administrators, Judges and Juries: A Comparative Analysis*, 58 Harv. L. Rev. (1944) 70, 113.

fact that the federal equity practice which was followed² in Rule 52 (a) of the Federal Rules governing Circuit Court review of judge-made findings was to give "the appellate court in equity * * * unlimited power to review the entire record, both on the law and on the facts; this, of course, included power to review issues with respect to which law and fact were intermingled. The self-imposed limitation, which was the forerunner of the 'clearly erroneous' rule [of Rule 52 (a)], merely recognized the superior position of the trial judge as to matters of credibility. The appellate courts did not curtail their reviewing power except where there was a reason for doing so—i. e., as to those matters which could best be determined by the man who heard the testimony. The predecessor to the 'clearly erroneous' rule thus applied only to findings as to *specific facts* where *testimony* might be in *conflict*, and to facts to be inferred from *oral testimony*."³ [Italics supplied.]

3. The Administrator's contention that the issue of the meaning and application of the Regulation is a question independently reviewable by the Circuit Court is in no way weakened by the observation of Judge McCulloch (which is noted in this Court's *per*

² Advisory Committee, Notes to the Rules for Civil Procedure (1938), Note to Rule 52 (a).

³ Stern, *supra*, pp. 113–114. That the word "fact" in Rule 52 (a) is to be given this normal and natural meaning as against a broad meaning which would include the idea of "applying" the law to the facts is further corroborated by the use of the same word, in obviously the normal, restricted sense, in Rule 53 (e) (2) as to master's findings and in Rule 56 as to summary judgment (*Id.*, pp. 114–115).

curiam opinion) that the question involved is a technical, industry question. Of course, Table 2 of the Regulation in fixing maximum prices for Douglas Fir dimension lumber uses some technical terms in denoting various specifications. But all of these terms are fully defined in the Regulation; none of them harbors any ambiguity that would have to be dispelled by reference to factual testimony as to what the industry understood them to mean. In other words the pertinent, technical terms are given (by Sec. 22 and Table 2, Note 23) the meanings set forth in Standard Grading and Dressing Rules (Exhibit 2) and the American Lumber Standards (Exhibit 2). These explicit definitions incorporated in the Regulation—which are controlling on the meaning of the terms used (*Fox v. Standard Oil Co.*, 294 U. S. 87, 55 S. Ct. 333)—show that the *dimension lumber referred to in Table 2* of whatever quality or surfacing, has a standard, *minimum thickness when surfaced at all, of 15/8''* (See Administrator's main brief, p. 15), whereas the *lumber sold here was concededly of 11/2'' thickness* (Exhibits 3-5, R. 64-66). Thus it is apparent, from the explicit definitions in the Regulation and the conceded facts, that Table 2 was inapplicable, and no reference to any testimony on the industry understanding of the technical terms used in Table 2 was necessary. *Nor, indeed, was any offered by the defendant-appellee.* As was pointed out in our reply brief (p. 2), the only argument appellee could muster in his brief, to show the applicability of Table 2, was an attempted demonstration at some length of the irrelevant propositions

that *he in fact used* Table 2 prices and that they were "reasonable."

Thus, insofar as this Court's unwillingness to disturb the district judge's determination is based on the assumption that he had based his conclusion on evidence of industry understanding of technical terms used in Table 2, the Court has proceeded on an erroneous assumption.

4. We have thus far argued that the question of construction involved here is either a question of law or a "mixed" question which is independently reviewable by this Court, and that the review of judicial "findings of fact" provided for in Rule 52 (a) has no pertinence to this case. But even if it were *assumed that Rule 52 (a) were applicable*, this Court's *per curiam* opinion would be erroneous for the reason that it adopts a *standard of judicial review different from that embodied in Rule 52 (a)*. The Court uses a "substantial evidence" rule, whereas Rule 52 (a) establishes a "clearly erroneous" standard. The latter standard gives the reviewing court far more scope. "Policy, authority, and history all * * * show that the 'clearly erroneous' rule gives the reviewing court broader powers than the 'substantial evidence' formula."⁴ The Rule, as has previously been noted, adopted the federal equity practice, and the equity practice, as the Supreme Court has said, "did not deny power to the Circuit Court of Appeals to review facts but rather went to the weight to be accorded to the findings of a lower court and had special perti-

⁴ *Id.*, p. 88.

nence where credibility of witnesses was involved.”⁵ This obviously provides a broader scope of review than the “substantial evidence” rule which is similar to the review given to the verdicts of juries.⁶

If, then (still on the assumption that Rule 52 (a) is applicable) the “clearly erroneous” standard is to be applied, it is clear that Judge McCulloch’s determination would have to be held to be “clearly erroneous” under the Rule, because it constitutes a finding “induced by an erroneous view of the law” (*Aetna Life Ins. Co. v. Kepler* 116 F. 2d 1, 4 (C. C. A. 8th)); or a “misapplication of the law” (*United States v. Armature Rewinding Co.* 124 F. 2d 589, 591 (C. C. A. 8th) or an “incorrect conclusion” from the evidentiary findings (*Kuhn v. Princess Lida of Thurn & Taxis* 119 F. 2d 704, 706, (C. C. A. 3rd).

5. It must therefore be concluded that—regardless of whether Rule 52 (a) applies—this Court is free to, and should, overrule the lower court’s determination that Table 2 of the Regulation applies. The Court has not considered the applicability of *Section 12* in its opinion, but simply states that it is unwilling to disturb Judge McCulloch’s “finding” that *Table 2* was applicable. Once that determination of the court below is overruled it follows necessarily, for the reasons set forth in our brief (Main brief,

⁵ *District of Columbia v. Pace*, 320 U. S. 698, 701–02.

⁶ See generally *Aetna Life Ins. Co. v. Kepler* 116 F. 2d 1, 4–5 (C. C. A. 8th); 3 Moore’s Federal Practice § 52.01, p. 3118; Simkins, Federal Practice (3rd ed.) p. 488; Pike and Fischer, Federal Rules Service, vol. 2, Commentary, pp. 673–4.

pp. 16-25; Reply brief pp. 3-5)⁷ that Section 12 of the Regulation, pursuant to which the Administrator

⁷ The argument as to the meaning of Section 12 may be summarized as follows: (1) It was evident that the *industry generally* knew the Section was intended to apply to sales of lumber of substandard specifications; (2) prior to issuance of the Revised Regulation, such sales had always been subject to a section comparable to Section 12, and there is nothing to show, either in the Statement of Considerations (which lists all the substantive changes made in the earlier regulation) or otherwise, that the change in wording of Section 12 reflected a change in intent as to the special-pricing procedure, in fact the words "grade" and "addition" had been used in the earlier Regulation and construed in a manner similar to that in which the Administrator construes them in Section 12; (3) In view of the clear inapplicability of Table 2, a conclusion that Section 12 is also inapplicable would be untenable (or at least far less reasonable than the contrary construction) because (a) it would make Section 12 *inconsistent* with Section 2 which declares that "*all* Douglas fir" is priced under RMPR 26 "whether the particular *item* is specifically priced in the price tables or not"; (b) it would leave the whole field of substandard specifications completely without a ceiling price, thus encouraging sellers to sell substandard items and virtually destroying price control in the industry.

We repeat that if the appellee had doubts as to the meaning of the regulation he could have dispelled them by inquiring of the O. P. A. In *A. T. & T. v. United States*, 299 U. S. 232, 245, 57 S. Ct. 170, a statutory provision requiring telephone companies to make, in the course of prescribed accounting procedures, an "estimate" of certain costs, was attacked on the ground of uncertainty of the requirement. The Court through Mr. Justice Cardozo, met this objection by pointing out that the F. C. C. was available to answer inquiries about the application of this provision, and he also stated that in any event no criminal penalty would come into play if the violations were not wilful. So, too, here, the O. P. A. is available for inquiries, and (even if it be assumed, *arguendo*, that damages beyond the single overcharge are penal) no penal damages are recoverable under Section 205 (e) of the Act if the violation is not wilful and occurs in spite of the taking of practicable precautions.

established the prices upon which the overcharges are calculated, is applicable to the lumber sales involved.

CONCLUSION

For the foregoing reasons it is submitted that this petition for rehearing should be granted.

Respectfully submitted.

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